United States Department of Agriculture

NRCS

Natural Resources Conservation Service

In cooperation with Illinois Agricultural Experiment Station

Soil Survey of Montgomery County, Illinois

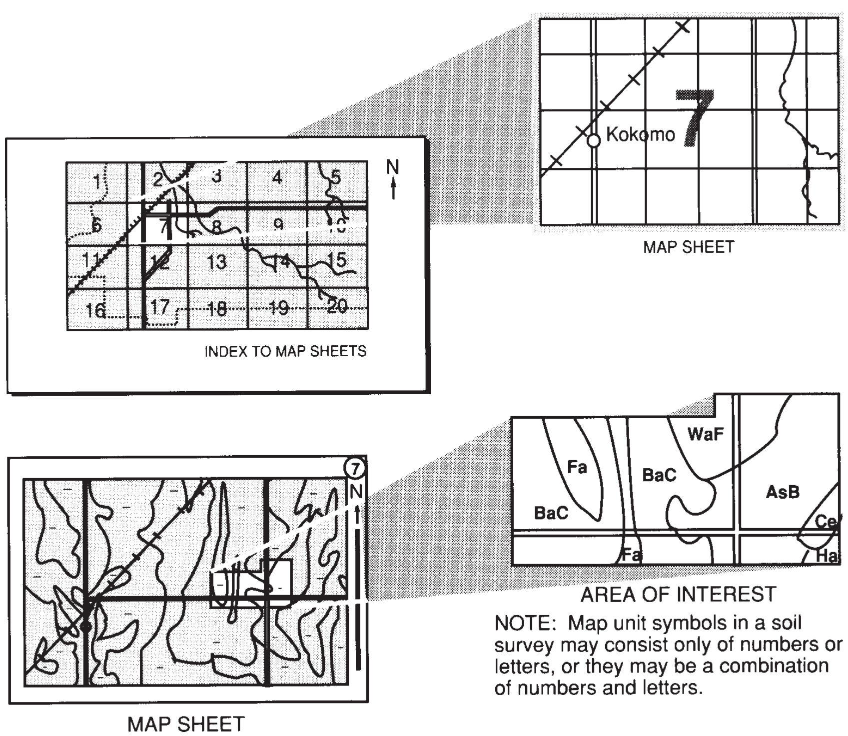
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Montgomery County Soil and Water Conservation District. Financial assistance was provided by the Montgomery County Board and the Illinois Department of Agriculture.

Major fieldwork for this soil survey was completed in 2005. Soil names and descriptions were approved in 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2005. The tables reflect the data in effect as of August 2009. The most current official data are available via the Web Soil Survey (http://soils.usda.gov).

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Nondiscrimination Statement

Cover Photo Caption

The historic Montgomery County Courthouse in Hillsboro, Illinois, was built in 1873. (Hillsboro *News-Journal* file photo)

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued 2009

Numerical Index to Map Units

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

William J. Gradle
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Montgomery County, Illinois

By Robert A. Tegeler, Natural Resources Conservation Service

Original fieldwork by C.E. Downey, R.L. Allison, F.N. Carroll, D.R. Grantham, D.B. Phillips, B.J. Weiss, and R.F. Wicks, Soil Conservation Service, and R.H. Andersen, J.B. Fehrenbacher, C.J. Frazee, P.R. Johnson, C.D. Sopher, and L.P. Wilding, University of Illinois Agricultural Experiment Station

Updated fieldwork by Rick T. Francen, James K. Hornickel, Steven E. Suhl, William M. Teater, and Robert A. Tegeler, Natural Resources Conservation Service

Geographic information assistance provided by Dale Baumgartner, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Illinois Agricultural Experiment Station

Montgomery County is in southwestern Illinois (fig. 1). It has an area of 454,265 acres, or about 710 square miles. It is bounded on the north by Sangamon and Christian Counties, on the south by Bond and Madison Counties, on the west by Macoupin County, and on the east by Shelby and Fayette Counties. In 2000, the population of the county was 30,652. Hillsboro, the county seat, had a population of 4,272 (U.S. Department of Commerce, 2000).

This soil survey updates the survey of Montgomery County published in 1969 (Downey and Odell, 1969). It provides more information and has orthophotographic maps at a slightly larger scale.

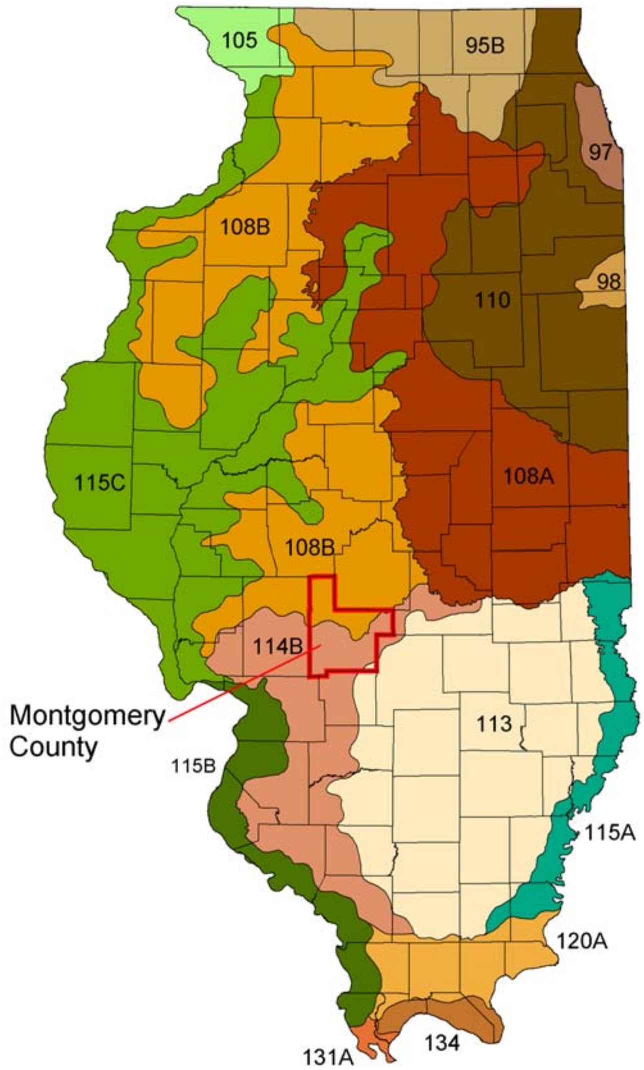
General Nature of the County

This section provides general information about Montgomery County. It describes history and development; physiography, relief, and drainage; farming and agriculture; transportation facilities and industry; and climate.

History and Development

Information in this section was taken from the Montgomery County Government Web site (http://www.montgomeryco.com/news/23-2.html).

There were few European settlers in the survey area prior to 1816. At the time the first Europeans arrived, the area was populated by scattered settlements of Kickapoo



LEGEND

95B—Southern Wisconsin and Northern Illinois Drift Plain
97—Southwestern Michigan Fruit and Truck Crop Belt
98—Southern Michigan and Northern Indiana Drift Plain
105—Northern Mississippi Valley Loess Hills
108A and 108B—Illinois and Iowa Deep Loess and Drift
110—Northern Illinois and Indiana Heavy Till Plain
113—Central Claypan Areas
114B—Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
115A, 115B, and 115C—Central Mississippi Valley Wooded Slopes
120A—Kentucky and Indiana Sandstone and Shale Hills and Valleys, Southern Part
131A—Southern Mississippi River Alluvium
134—Southern Mississippi Valley Loess

Figure 1.—The location of Montgomery County and the major land resource areas (MLRAs) in Illinois.

Indians. The new settlers drifted in, mostly from Bond and Fayette Counties. They settled first in the southeastern part of the county.

Early residents of the area, including John Tillson, Jr., Hiram Rountree, Israel Seward, and Eleaser Townsend, petitioned the State Legislature to allow the formation of Montgomery County on February 12, 1821, just 3 years after the State of Illinois was officially organized. The survey area was then part of Bond County.

When Montgomery County was organized, it included all of its present boundary and more, except for Audubon Township, the township and a half that is now east of Nokomis and Witt Townships. That land was part of Fayette County but was added to Montgomery County in 1827.

Montgomery County at that time also included parts of eight additional townships to the north of Raymond, Rountree, and Nokomis and east of Bois D'Arc and Harvel Townships. In 1839, when Dane County was formed, most of those areas were detached and the present line was finally set. Dane County was later renamed Christian County.

Montgomery County was named for General Richard Montgomery, a Revolutionary War hero killed in the assault against Quebec on December 31, 1775.

On March 21, 1821, in a cabin in the Taylor Springs area, three special commissioners met to decide on a site for the county seat. They voted to establish the county seat 3 miles southwest of presentday Hillsboro. This town would be called Hamilton. The town was established, log cabins built, and a store opened, and logs were even cut for a courthouse to be built there. The State Legislature then appointed three new special commissioners, who relocated the county seat to a different site on 20 acres owned by Newton Coffey, where downtown Hillsboro is now located. The new site was quickly approved by county commissioners, including Major James Wilson, Harris Reavis, and Newton Coffey.

The first courthouse was a two-story structure built of “hewn logs.” This structure had been partially completed by the time the first term of the circuit court was held there on June 17 and 18, 1824. The present courthouse was built in 1873.

Physiography, Relief, and Drainage

Montgomery County is in the Springfield Plain, which is in the Till Plains section of the Central Lowland Province of the Interior Plains Physiographic Division (Leighton and others, 1948). Elevation ranges from more than 767 feet above sea level at a point on Bald Knob in the eastern part of the county to less than 510 feet above sea level on the flood plain along Shoal Creek before it enters Bond County in the southern part of the county (fig. 2).

Most of Montgomery County is on a nearly level to gently sloping ground moraine. As a result of geologic erosion, stream valleys and drainageways dissect the landscape. Areas adjacent to the streams and drainageways are gently sloping to very steep.

During the Pleistocene, glaciers covered the county. Glacial deposits from the Illinois Episode exerted the most influence on the current landscape. The glacial till is commonly 25 to 50 feet thick but is probably much thicker in some of the deep valleys (Willman and Frye, 1970). The till is covered predominantly by loess, typically ranging from 40 to 60 inches in thickness in nearly level to gently sloping areas (Fehrenbacher and others, 1986). The till is exposed in the more sloping areas throughout the county. A small area of the county, predominantly in the Kaskaskia basin, consists of loamy “ridged drift” that occurs on moderately sloping to strongly sloping, prominent ridges and knolls (Melhorn and Kempton, 1991).

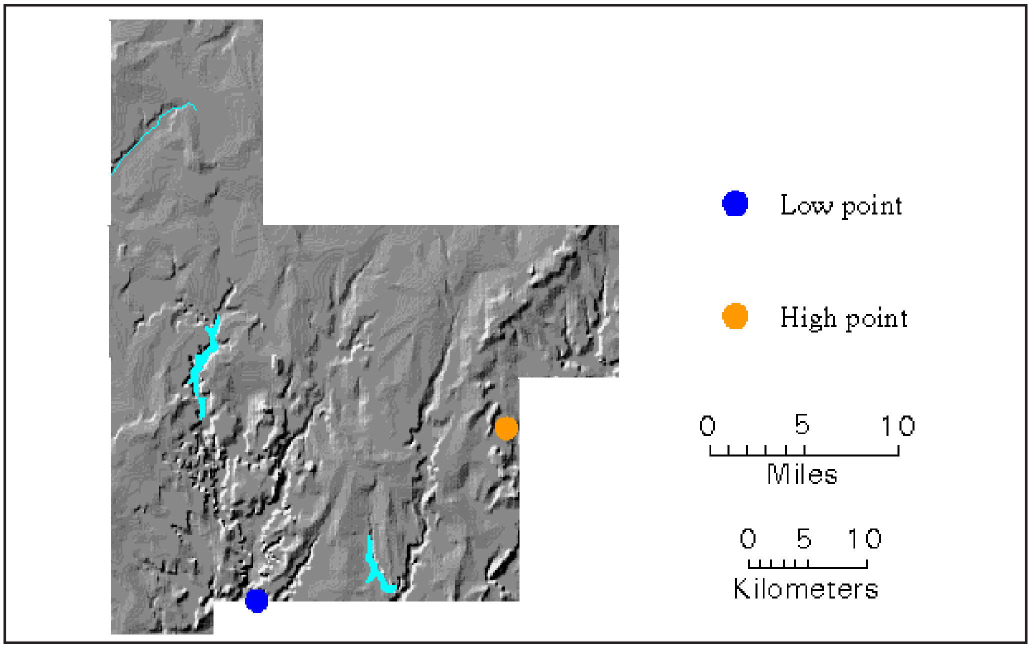


Figure 2.—A generalized relief map of Montgomery County showing the location of the highest and lowest points in the county. The blue dot represents the lowest elevation, 510 above mean sea level. The orange dot represents the highest elevation, 767 feet above mean sea level. (Source: Illinois State Geological Survey, http://www.isgs.uiuc.edu/hi_low/hilow_intro.html)

The nearly level flood plains along the major streams and their tributaries consist of alluvium that is commonly 10 to 20 feet thick along many valleys and is 50 to 75 feet thick along major valleys (Willman and Frye, 1970).

Montgomery County has 15 major watersheds, including Bear Creek, Big Branch-Cahokia Creek, Carlyle Reservoir-Kaskaskia River, Clear Creek, East Fork Shoal Creek, Headwaters Shoal Creek, Horse Creek, Hurricane Creek, Middle Fork Shoal Creek, Mitchell Creek, Ramsey Creek, Silver Creek, Upper Macoupin Creek, Upper South Fork Sangamon River, and West Fork Shoal Creek. In the northern part of the county, watersheds of Bear Creek, Clear Creek, Horse Creek, and South Fork flow north and eventually empty into the Sangamon River. In the northwestern part of the county, the watershed of Macoupin Creek flows west into the Illinois River. The watershed of Cahokia Creek, in the southwestern part of the county, flows south and west into the Mississippi River. The remaining watersheds flow south and eventually empty into the Kaskaskia River.

Farming and Agriculture

Farming continues to be an important enterprise in Montgomery County. An estimated 1,001 farms make up about 80 percent (362,300 acres) of the total acreage in the county. Corn and soybeans are the major crops, making up approximately 90 percent of the crops planted annually (USDA, 2002). Secondary farm products include wheat, forage, cattle, hogs, and sheep. In 2002, there were 149,865 acres of corn, 145,783 acres of soybeans, 9,766 acres of wheat, 5,775 acres of forage, 58,861 hogs, 11,053 cattle, and 388 sheep. The most productive soils in the survey area are in the northern part of the county and on the flood plain along Shoal Creek.

The number of farms in the county has gradually decreased since the early 1930s. The average farm size is currently 362 acres (USDA, 2002). A large number of farms in the county rely on income that is generated from jobs away from the farm. Many of the farmers and their families are employed outside of the agricultural industry.

Transportation Facilities and Industry

Dave Hobson, soil conservation technician, Natural Resources Conservation Service, helped prepare this section.

Montgomery County has several railroads. The earliest, built in 1855, passed through Litchfield, Butler, Hillsboro, and Nokomis and permitted increased exports of grain and livestock to St. Louis, Missouri, and Terre Haute, Indiana. Later, this railroad encouraged the development of coal mining and manufacturing. The county's network of paved primary highways, including old U.S. Route 66 and now Interstate 55, along with State, county, and township secondary roads, provides access to all parts of the county throughout the year.

The first coal mine was developed at Litchfield between 1867 and 1874. The production of coal increased rapidly until World War I, and it is still a potentially important industry. At one time, coal mining was second only to farming in importance in the county. Most of the mines closed in the 1970s and 1980s. Montgomery County still has modest reserves of unmined coal and has prospects of mining in the near future. Manufacturing in the county is concentrated primarily in Litchfield, where such items as PVC pipe, auto parts, sports equipment, and construction components are produced. In the southern part of the county, a coal-fired power plant near the town of Coffeen supplies much of the surrounding area with power. Montgomery County also has three large manmade lakes, each with more than 1,200 acres, which contribute to the water supply and provide recreational opportunities.

Climate

Montgomery County has a continental climate characterized by relatively cold winters and warm, humid summers. Although precipitation is heaviest during the warmer half of the year, winter snow cover and frost usually provide adequate moisture to the soils in spring.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Hillsboro in the period from 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 31 degrees F and the average daily minimum temperature is 22.5 degrees. The lowest temperature on record, which occurred at Hillsboro on February 14, 1905, is -22 degrees. In summer, the average temperature is 75.9 degrees and the average daily maximum temperature is 87.5 degrees. The highest recorded temperature, which occurred at Hillsboro on July 14, 1954, is 114 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 40.21 inches. Of this total, 22.83 inches, or 57 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is

less than 10.42 inches. The heaviest 1-day rainfall on record was 6.53 inches at Hillsboro on October 18, 1905.

The average seasonal snowfall is 19.1 inches. The greatest recorded 1-day snowfall, 14 inches, occurred at Hillsboro on February 21, 1912, and March 19, 1906. On the average, 3 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Areas 108B, 113, and 114B (fig. 1). Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA/NRCS, 2006). Montgomery County is a subset of MLRAs 108B, 113, and 114B. Map unit design is based on the occurrence of each soil throughout an MLRA. In some cases a soil may be referred to that does not occur in Montgomery County but that has been mapped within the MLRA.

The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses. During the fieldwork for this survey, soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They prepared new soil profile descriptions and studied many existing soil profile descriptions. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. This model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they observed. The maximum depth of observation was about 80 inches (6.7 feet). The soil scientists noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Interpretations are modified as necessary to fit local conditions, and some new interpretations are developed to meet local needs. Interpretations and tables for this soil survey were generated using the National Soil Survey Information System (NASIS), version 5.4. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a seasonal high water table within certain depths in most years, but they cannot predict that the water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Aerial photographs used in this update survey were taken in 2005. Soil scientists also studied U.S. Geological Survey topographic maps (enlarged to a scale of 1:12,000) and orthophotographs to relate land and image features. Specific soil boundaries from the soil maps published in 1969 (Downey and Odell, 1969) were drawn on the orthophotographs. Adjustments of soil boundary lines were made to coincide with the U.S. Geological Survey topographic map contour lines and tonal patterns on aerial photographs.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the general processes of soil formation and the soil-landscape units in the survey area. It also describes the system of soil classification.

Formation of the Soils

Steve Suhl, resource soil scientist, Natural Resources Conservation Service, helped prepare this section.

A soil is a three-dimensional natural body consisting of mineral and organic material that can support plant growth. The nature of any soil at a given site is the result of the interaction of the factors of soil formation and their influence on the processes of soil formation.

Factors of Soil Formation

There are five major factors of soil formation: parent material, climate, plants and animals, topography, and time. Climate and plants and animals act directly on parent material, which is modified by topography over time. Theoretically, if all of these factors were identical at different sites, the soils at these sites would be identical. Differences among the soils are caused by variations in one or more of these factors.

Parent Material

Parent material is the unconsolidated material in which the soil forms. It determines the basis for the chemical and mineralogical composition of the soil. The properties of the parent material vary greatly, sometimes within small areas, depending on how the material was deposited. The soils in Montgomery County formed in a variety of parent materials. The majority of the soils formed in loess. Other soils formed in drift, alluvium, or a combination of these. A few soils formed in overburden from aggregate mining. Figure 3 shows the relationship of parent material to some of the major soils in the county.

Loess consists of sediments transported and deposited by wind. The primary source of these sediments was valley trains. Valley trains consist of outwash deposited in valleys cut by glacial meltwater. During periods of low temperatures and precipitation rates, the meltwaters would recede, exposing the barren outwash surface to intense wind erosion. The wind stripped the finer components of sand, silt, and clay from the outwash and transported and deposited them downwind along the adjacent valley sides and over the uplands. The coarser silt and fine sands were deposited near the source valleys, and the finer silts and clays were carried longer distances and deposited over broad areas. The loess in Montgomery County was deposited during times of glacial melting and retreat. It is composed dominantly of silt but also includes some clay and very little sand. The loess is about 7 feet thick in the northwestern part of the county and thins to about 4 feet in the southeastern part. Herrick soils formed in loess.

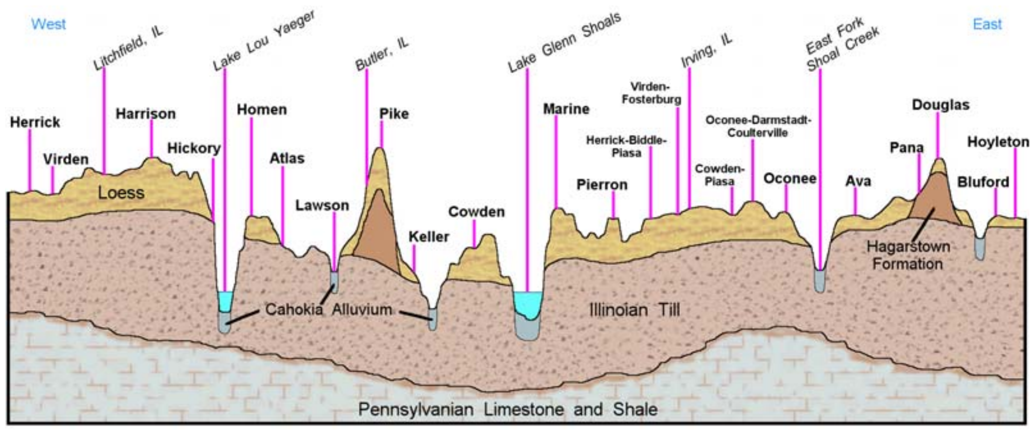


Figure 3.—Typical cross section showing the relationship of parent material to the soils in Montgomery County.

Drift is glacially deposited sediment. Three main glacial episodes influenced the soils in Montgomery County: the Pre-Illinoian, Illinoian, and Wisconsinan. During these periods of glacial presence in Illinois, drift was deposited as the ice sheets melted. The two main types of drift are till and outwash.

Till is material that was deposited directly by glacial ice with little or no water action. It typically has particles that vary in size, including sand, silt, clay, and some pebbles, cobbles, and larger rock fragments. The small pebbles in till generally have distinct edges and corners, indicating that they have not been subject to intense washing by water. Till is well graded and unstratified. In Montgomery County, nearly all of the till was deposited during the Illinoian Episode. Hickory soils are examples of soils that formed primarily in till; in many places the till is covered by a thin layer of loess.

During the Yarmouth interglacial episode (which occurred between the Pre-Illinoian and the Illinoian Episodes) and the Sangamon interglacial episode (which occurred between the Illinoian and Wisconsinan Episodes), the relatively flat, stable till surface was exposed to intense weathering. Soils formed on this surface and were later buried by deposits of loess. The soils that formed on this old surface are called geosols, and they reflect the conditions during which their formation occurred. Most soils in Montgomery County are underlain by a Sangamon geosol within about 12 feet of the modern surface. Within a soil profile, or once it is exposed, a geosol is called a paleosol. In some areas, modern soil development is entirely in the overlying loess and does not affect the underlying paleosol. In other areas, modern soil development is deep enough to reach into the underlying paleosol. The result is a welded soil profile where modern soil development is transforming the already developed paleosol. Fishhook soils are examples of soils that formed in loess and in the underlying paleosol. An exhumed paleosol occurs in areas where erosion has removed the overlying loess deposits and exposed the paleosol at the modern soil surface. Atlas soils are modern soils forming in paleosol materials in these areas.

Outwash includes all sediments deposited by running water from melting glaciers. The size of the particles that can be transported by water, either as bedload or suspended sediments, depends on the gradient, volume, and velocity of the moving water. Water velocity decreases when a stream loses grade or flows into a larger body of water. As the velocity decreases, suspended particles begin to settle out. The coarser materials, such as gravel and cobbles, are deposited nearer to the source; the finer materials, such as fine sands, silts, and clays, are carried farther downstream. The pebbles in outwash generally have rounded edges and corners,

indicating that they have been subject to intense washing by water. Outwash is poorly graded, is stratified, and has variable composition because of variations in the flow of water. Outwash is generally permeable. The outwash in Montgomery County was deposited during the Illinoian Episode. The soils that formed in these outwash deposits are of minor extent in Montgomery County. Pike and Parke soils are examples of soils that formed in loess and in the underlying outwash.

Alluvium is material deposited by running water. The two major types are stream alluvium and valley-side alluvium.

Stream alluvium is soil material deposited by floodwater along streams. The source of the alluvium generally is material eroded from other parent materials farther upstream in the watershed. Stream alluvium is poorly graded, stratified, and well sorted. The texture of the soil material varies, depending on the speed of the floodwater, the duration of the flooding, and the distance from the streambank. The more rapidly moving water within the stream channel slows quickly once outside the channel as the concentrated channel flow changes to broad overland flow. As the water velocity decreases, the coarser textured material is deposited first near the channel. The finer textured material is carried a greater distance from the channel. Lawson soils are examples of soils that formed in areas where the alluvium is coarser textured. Sawmill soils formed in areas of finer textured alluvium.

Valley-side alluvium, or colluvium, is poorly graded and stratified, but it generally is not well sorted. The source of the alluvium generally is material eroded from parent material directly upslope. The soils that form in valley-side alluvium are similar in character to the upslope source. Terril soils formed in valley-side alluvium.

Overburden from the mining of limestone is the overlying material excavated to expose the limestone bed. It consists of unconsolidated material, which includes the solum and substratum of the modern soil. The characteristics of the soil on mined land reflect the character of the overburden, the method of mining, and the degree of reclamation. For example, the parent material of the Lenzburg soils is a heterogeneous mixture of loess, till, and limestone. This mixture is the result of a mining process in which little or no segregation of materials occurs.

Climate

The climate in Montgomery County has significantly affected the soil-forming processes. The county currently has a humid, temperate climate. In this climatic environment, physical and chemical weathering of the parent material can occur along with the accumulation of organic matter, the decomposition of minerals, the formation and translocation of clay, the leaching of soluble compounds, and alternating periods of freezing and thawing.

The two climatic factors that have the greatest influence on soil-forming processes are precipitation and temperature. Precipitation supplies the moisture needed for most physical and chemical processes and determines the depth to which these processes occur. The soil moisture regime, which is only a partial function of precipitation, determines the processes that occur in the soil. The rate at which these physical and chemical processes proceed is dependent upon the temperature, particularly its relationship to the soil temperature regime.

Two soil moisture regimes occur in the county—aquic and udic. The aquic moisture regime is a reducing regime in a soil that is virtually free of dissolved oxygen because of saturation by water or by water of the capillary fringe. Biological activity is necessary to remove dissolved oxygen from ground water; therefore, the soil temperature must also be above biologic zero (5 degrees C) for some time while the soil is saturated. Virden soils have an aquic soil moisture regime. The udic moisture regime implies that the soil moisture control section is not dry in any part for as long as 90 cumulative days per year. Also required, except for short periods, is a three-phase system, solid-liquid-gas, in part or all of the soil moisture control section when

the soil temperature is above biologic zero. Harrison soils have a udic soil moisture regime.

The mesic soil temperature regime is the only temperature regime recognized in the county. This regime implies that the mean annual soil temperature is 8 degrees C or higher but is lower than 15 degrees C, and the difference between mean summer and mean winter soil temperatures is more than 5 degrees C at a depth of 20 inches.

Plants and Animals

The vegetation under which a soil forms influences several important soil properties, such as color, structure, reaction, and content and distribution of organic matter. Vegetation extracts water from the soil, recycles nutrients, and adds organic material to the soil. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals.

Several different types of vegetation have influenced the formation of the soils in Montgomery County. These include prairie vegetation, upland hardwood forests, forest-prairie transition areas, and flood-plain areas. These vegetation types are described in the following paragraphs.

Prairie Vegetation.—The decomposition of the roots of annual prairie grasses provides well distributed subsurface accumulations of organic materials, resulting in a thick, dark surface layer. Harrison soils formed under prairie vegetation. In uneroded areas, the average content of organic matter in the surface layer of these soils is 3 to 4 percent.

Upland Hardwood Forests.—Organic matter is contributed primarily from the annual additions of leaf litter to the surface layer, resulting in a thin, dark surface layer. Ava soils formed under this type of vegetation. In uneroded areas, the average content of organic matter in the surface layer of these soils is 1.0 to 2.5 percent.

Forest-Prairie Transition Areas.—Soils that formed in these areas exhibit modified characteristics of both forest and prairie vegetation. Hoyleton soils, which formed in these transition areas, have a thinner surface layer than the soils that formed under prairie vegetation. In uneroded areas, the average content of organic matter in the surface layer of the Hoyleton soils is 1.5 to 3.5 percent.

Flood-Plain Areas.—Soils in these areas formed under a combination of trees and grasses. They have colors that largely reflect those of the sediments in which they formed. Lawson and Shoals soils are examples.

Bacteria, fungi, and many other micro-organisms decompose organic material and release nutrients to growing plants. They influence the formation of peds. Soil properties, such as drainage, temperature, and reaction, influence the type of micro-organisms that live in the soil. Fungi are generally more active in the more acid soils, and bacteria are more active in the less acid soils.

Earthworms, crayfish, insects, and small burrowing animals mix the soil and create small channels that influence soil aeration and the percolation of water. Earthworms help to incorporate crop residue or other organic material into the soil. The organic material improves soil tilth. In areas that are well populated with earthworms, the leaf litter that accumulates on the soil in the fall is generally incorporated into the soil by the following spring. If the earthworm population is low, part of the leaf litter can remain on the surface of the soil for several years.

Human activities have significantly influenced soil formation through their effect on soil health. Degradation processes, such as erosion, compaction, contamination, disaggregation, loss of biological activity, and nutrient depletion, have damaged soil health. Native forests have been cleared and wet soils drained for farming and other uses. The development of land for urban uses or for surface mining has significantly influenced the soils in some areas.

Topography

Topography describes the configuration of the land surface in terms of relief and contour. It influences soil formation mainly through its effect on the proportion of surface-water runoff to infiltration and on the degree of erosion or deposition. In Montgomery County, the less sloping areas generally have a lower rate of runoff and a higher rate of infiltration rate than the steeper areas. Soils that form in the less sloping areas tend to exhibit more development than the soils in the steeper areas and have a thicker soil profile.

The degree of the effect of topography is dependent upon the type and stability of the land surface. There are two types of land surfaces—aggrading and degrading—and three levels of stability—stable, metastable, and active. In Montgomery County, aggrading surfaces receive material either from deposition associated with flooding or by the accumulation of erosional sediments. Lawson soils formed on flood plains, which are active-aggrading land surfaces. Terril soils formed on footslopes that receive runoff with some accumulation of hillslope sediments. Footslopes are examples of metastable-aggrading land surfaces. Virden soils formed in broad, low-lying areas on drainage divides (talfs) that receive runoff from upslope but accumulate little sediment from hillslope erosion. These broad, low-lying areas are examples of stable-aggrading land surfaces. Degrading surfaces lose material primarily by the process of erosion. Oconee soils formed on the broad convex summits of interfluves. Broad summits are examples of stable-degrading surfaces, where runoff is limited. Fishhook soils occur on shoulders of hillslopes and thus are more susceptible than the Oconee soils to runoff and erosion. Shoulders are metastable-degrading surfaces, where increased runoff leads to higher rates of erosion. Backslopes are examples of active-degrading surfaces. Hickory soils are on backslopes, where runoff and erosion rates are highest.

Time

The length of time that the parent material has been exposed to the soil-forming processes influences the degree of genetic horizon development that occurs within the soil. The evaluation of time as a factor in soil formation is difficult because of the effects of the other soil-forming factors. The influence of time can be modified by erosion, deposition of material, topography, and kind of parent material. Soils on flood plains receive alluvial material during each flood. This repeated deposition interrupts soil formation. Lawson soils are examples of soils that formed in stream alluvium on flood plains.

Processes of Soil Formation

Soil forms through the complex interaction of four general processes. These processes are additions, transformations, removals, and transfers. The importance of these processes in the formation of a given soil varies.

The accumulation of organic matter in the A horizon of the mineral soils in Montgomery County is an example of an addition. The most striking example of this addition is the formation of a mollic epipedon. The mollic epipedon forms in an environment that features optimum amounts of moisture, temperature, and bivalent cations. Such an environment allows grasses to thrive. The underground decomposition of organic residues and of organic residues from the surface that have been taken underground by animals results in the characteristic thickness and darkness of the mollic epipedon. Herrick soils are examples of soils that have a mollic epipedon.

Transformations are changes that take place in the soil. An example is the reduction of iron and manganese. Typically, iron oxides coat soil particles and, in an aerated environment, produce yellowish, yellowish brown, or reddish colors.

Manganese oxides produce black colors. Micro-organisms that are able to generate energy from the oxidation of soil organic matter in an aerated environment flourish. The energy is necessary for the micro-organisms to conduct the basic functions of life. When a soil becomes saturated with water and the dissolved oxygen is depleted or removed, anaerobic conditions develop. In an anaerobic environment, micro-organisms that can derive energy from the reduction of oxidized compounds, such as iron and manganese, become prevalent. The energy produced is used to create chemical compounds from organic matter that are necessary to sustain life. Reduced iron and manganese can move with the soil water to other parts of the soil (translocation) and can be removed entirely from the soil by leaching (removal). After the iron and manganese are gone, the leached area, or depletion, generally has a grayish or whitish color, which is the natural color of the mineral grain. If the reduced iron comes in contact with oxygen, it can re-oxidize. The result is the formation of bright-colored concentrations or accumulations. The processes of reduction, translocation, and oxidation result in the development of distinctive soil morphological characteristics called redoximorphic features. Repeated cycles of saturation and drying create a mottled soil. Part of the soil is gray because of the loss of iron, and other parts are brown because the iron oxide has accumulated or has not been removed. The somewhat poorly drained Herrick soils are examples of soils in which this process has occurred. If a soil remains saturated for long periods, iron may be leached from the soil. Such soils are generally grayish, or gleyed. The poorly drained Virden soils are examples.

Removals that occur within the soil are commonly a result of leaching. The leaching of calcium carbonate from many of the soils in the county is an example of a removal. The parent material of these soils was initially high in calcium carbonate. Water percolating through the soil dissolved and transported the carbonate into the deeper soil layers. Calcium carbonate is relatively soluble and is removed relatively early in the formation of the soil. It is also a powerful flocculent, and its removal facilitates the translocation of clay and the formation of illuvial horizons. The loss of solid mineral and organic particles through erosion is another example of a removal. Such losses can be serious because the material lost is typically the most productive part of the soil profile.

Translocations are movements from one place to another in the soil. An example is the formation of an illuvial horizon through the translocation of clay from the A or E horizon, the zone of eluviation, or loss, to the B horizon, the zone of illuviation, or gain. In Oconee soils, for example, significant clay has accumulated, forming an illuvial horizon called an argillic horizon. The argillic horizon developed on a relatively old, stable landscape. Fine clay was transferred from the A or E horizon by water from rain and melting snow downward through the soil to the B horizon, where it was deposited on the faces of peds and along pores.

Soils and Soil-Landscape Units

Soils are natural bodies that are distributed on the landscape in a predictable way in response to a systematic interaction of the five major factors of soil formation—parent material, time, topography, plants and animals, and climate. The relationship of landscape to these five factors results in a soil-landscape unit (Hudson, 1992). A soil-landscape unit is similar to a landform that has been modified by one or more of the soil-forming factors. Within a particular soil-landscape unit, the same kind of soil should develop. Changes in the interaction of one or more of the five factors leads to a change in the soil-landscape unit, which in turn influences the soil-forming processes and the soil that forms within this unit.

The following paragraphs describe the relationships and interactions that occur in some of the more common soil-landscape units in Montgomery County and the soils that have formed in these units.

Upland landscapes predominate in Montgomery County. These landscapes range from broad, relatively undissected drainage divides to dissected areas adjacent to streams and rivers. The predominant parent materials are loess and the underlying till. Much of the calcium carbonate present when the loess was deposited has been leached to a sufficient depth to facilitate soil development.

The broad, low-lying areas on the drainage divides (talfs) are stable-aggrading land surfaces. These land surfaces receive water through direct precipitation and runoff from upslope. These conditions result in a wet soil microclimate. A seasonal high water table is near the surface much of the year, and at times the area is ponded. Redoximorphic features associated with prolonged saturated conditions, such as a depleted soil matrix and iron and manganese accumulations along root channels and pores, occur at the soil surface as a result of the seasonal high water table.

The native vegetation in this soil-landscape unit was prairie grass. Additions of organic material from the decomposition of the extensive and deep root systems of these grasses resulted in a thick, dark surface layer called a mollic epipedon.

The saturated conditions and poor aeration influenced the rate of decomposition of organic material. This rate is slower in soils that are saturated for prolonged periods, resulting in a thicker mollic epipedon and a higher content of organic matter than those of the soils in better aerated positions upslope.

The depth to the water table, which is shallow a significant part of the year, often fluctuates to a greater depth in the summer. This variation in the depth of the water table disrupts the soil fabric through cycles of wetting and drying, which aid in the dispersal of clay, the movement of clay with percolating water, and the precipitation of clay as films on ped surfaces and as linings of pores. The result is the formation of an illuvial horizon called an argillic horizon. Virden soils formed in areas of this soil-landscape unit.

Upslope from the low-lying areas is a soil-landscape unit composed of the summits of broad rises on drainage divides. These areas are stable-degrading land surfaces that receive water primarily through direct precipitation. The seasonal high water table is at a lower depth than in the soils in the adjacent low-lying areas, and the associated redoximorphic features indicate a fluctuating water table. The soil microclimate alternates between periods when the soil is saturated and periods when the soil is unsaturated. The yellowish brown soil matrix in the upper part of the profile indicates an oxidizing environment; the redoximorphic features are associated with periods of saturation.

The native vegetation in areas of this soil-landscape unit was prairie grasses, but these landscape positions are better aerated than the low-lying positions and tend to have a higher rate of decomposition of organic matter. As a result, the soils in these areas generally have a slightly thinner mollic epipedon and a lower content of organic matter than the soils in the low-lying areas.

Fluctuations in depth to the water table disrupt the soil fabric through wetting and drying cycles, which aid in the dispersal, movement, and precipitation of clay as films on ped surfaces and as linings of pores. The result is the formation of an argillic horizon. Herrick soils formed in areas of this soil-landscape unit.

In areas nearer drainageways, the soil-landscape unit is more dissected and composed of broad summits of interfluves. It has characteristics similar to those of the unit on the summits of broad rises on drainage divides. These dissected areas are stable-degrading land surfaces that receive water primarily through direct precipitation. The depth to the seasonal high water table and the associated redoximorphic features are nearly identical to those of the soil-landscape unit on the summits of broad rises.

The native vegetation in areas of this soil-landscape unit was forest. Under forest vegetation, most of the additions of organic material occur above ground. Organic matter is not incorporated as deep in the soil profile as it is in soils that formed under prairie vegetation, and the content decreases rapidly with increasing depth. The dark surface layer in these soils is thinner than that in the Herrick soils. Because the surface layer is thinner and does not have a sufficient accumulation of organic matter, the soils in this unit do not have a mollic epipedon. The surface horizon in areas of these soils is called an ochric epipedon.

Underlying the surface horizon, a light-colored, eluvial subsurface horizon (called an albic horizon) has developed. This horizon is typical of soils that formed under forest vegetation. In this horizon, much of the clay and free iron oxides has been removed and the color is determined primarily by the uncoated silt and sand particles. The more acid leaching environment that occurs under forest vegetation allows dispersed clay particles to be translocated to a greater depth than in similar positions under prairie vegetation. The result is a well developed argillic horizon. Marine soils formed in areas of this soil-landscape unit.

Adjacent to this soil-landscape unit is a unit that is also composed of summits of interfluves but that is generally closer to the opposing interfluve drainageways and on narrower summits. These areas are stable-degrading land surfaces that receive water through direct precipitation. Water that does not infiltrate the soil is lost through surface flow or runoff. Runoff increases the susceptibility to erosion.

The seasonal high water table and the associated redoximorphic features occur at a much lower depth than in the soils on the broad summits. The upper part of the soil profile is generally yellowish brown and free of depletions, indicating an oxidizing environment. Depletions occurring in the lower part of the subsoil are generally restricted to the pores within the soil.

The native vegetation in areas of this soil-landscape unit was forest. The soils have an ochric epipedon, an albic horizon, and a well developed argillic horizon. Homen soils formed in areas of this soil-landscape unit.

Downslope from this soil-landscape unit is a unit composed of backslopes of side slopes. These areas are active-degrading land surfaces that receive water through direct precipitation but also lose much of this water through runoff. Runoff increases the susceptibility to erosion. The depth to the seasonal high water table is greater than that in the Homen soils. The entire soil profile developed in an oxidizing environment, resulting in a yellowish brown or brown profile that is free of depletions.

The native vegetation in this soil-landscape unit was forest. The soils have an ochric epipedon and an argillic horizon. Hickory soils formed in areas of this soil-landscape unit.

On the narrow flood plains between opposing side slopes is an active-aggrading land surface that receives depositions of sediment from frequent episodes of flooding. The nearly continual deposition of sediment interrupts the soil-forming processes. The result is a less developed soil profile. The soils in these areas have a mollic epipedon, but they also exhibit the fine stratification common to recent alluvial deposits and have no diagnostic subsurface horizons. Lawson soils are examples.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 4 shows the classification of the soils in Montgomery County. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol.* An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udoll (*Ud,* meaning humid, plus *oll,* from Mollisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Argiudolls (*Argi,* meaning white clay, plus *udoll,* the suborder of the Mollisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Argiudolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, thickness of the root zone, cation-exchange capacity, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic Argiudolls.

SERIES. The series consists of soils that have similar horizons in their profile. An example is the Douglas series. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Soil Series and Detailed Soil Map Units

In this section, arranged in alphabetical order, each major soil series recognized in the survey area is described. Each series description is followed by detailed descriptions of the associated soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2006). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the headings “Use and Management of the Soils” and “Soil Properties.”

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform

segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Homen silt loam, 5 to 10 percent slopes, eroded, is a phase of the Homen series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Cowden-Piasa silt loams, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the components in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Hickory and Negley loams, 18 to 35 percent slopes, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarries, is an example.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

Assumption Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

Taxadjunct features: The Assumption soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs.

Typical Pedon

Assumption silt loam, 2 to 5 percent slopes, at an elevation of 720 feet; Henry County, Illinois; approximately 100 feet north and 300 feet east of the southwest corner of sec. 29, T. 15 N., R. 2 E.; USGS Andover, Illinois, topographic quadrangle; lat. 41 degrees 15 minutes 0 seconds N. and long. 90 degrees 17 minutes 57 seconds W., UTM Zone 15, 726284 Easting, 4570032 Northing, NAD83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; many fine roots throughout; neutral; abrupt smooth boundary.

A—6 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many fine roots throughout; slightly acid; clear smooth boundary.

AB—13 to 16 inches; very dark grayish brown (10YR 3/2) silt loam mixed with some brown (10YR 4/3) in the lower 2 inches, grayish brown (10YR 5/2) and brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; many fine roots throughout; neutral; clear wavy boundary.

Bt1—16 to 26 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 5/3) clay films on faces of peds; slightly acid; clear wavy boundary.

Bt2—26 to 35 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct brownish yellow (10YR 6/6) masses of oxidized iron and common distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; abrupt wavy boundary.

2Bt3—35 to 51 inches; yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; firm; common fine roots between peds; common distinct brown (10YR 4/3) clay films on faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron; common medium prominent light olive gray (5Y 6/2) iron depletions; slightly acid; clear wavy boundary.

2Bt4—51 to 60 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct brownish yellow (10YR 6/6) masses of oxidized iron; slightly acid; clear wavy boundary.

2C—60 to 80 inches; brown (10YR 5/3) clay loam; massive; firm; common coarse faint grayish brown (2.5Y 5/2) iron depletions and common coarse faint brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the dark surface layer: 7 to 10 inches
Thickness of the loess: 20 to 40 inches
Depth to the base of soil development: 48 to more than 70 inches

Ap or A horizon(s) and AB horizon (where present):
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silt loam

Bt horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 6
Texture—silty clay loam or silt loam

2Btg or 2Bt horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 to 6
Texture—clay loam, silty clay loam, clay, or silty clay

2C or 2Cg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 to 6
Texture—clay loam, silty clay loam, clay, or silty clay

259C2—Assumption silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Assumption and similar soils: 97 percent
Dissimilar soils: 3 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 24 inches

Dissimilar soils:
- The somewhat poorly drained Herrick soils in landform positions above those of the Assumption soil

Properties and Qualities of the Assumption Soil

Parent material: Loess over a paleosol that formed in till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Atlas Series

Taxonomic classification: Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs

Typical Pedon

Atlas silt loam, 5 to 10 percent slopes, eroded, at an elevation of 665 feet; Adams

County, Illinois; approximately 1,200 feet west and 50 feet south of the northeast corner of sec. 7, T. 1 N., R. 6 W.; USGS Coatsburg, Illinois, topographic quadrangle; lat. 40 degrees 5 minutes 39.9 seconds N. and long. 91 degrees 7 minutes 51.5 seconds W., UTM Zone 15, 659313 Easting, 4439916 Northing, NAD83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common very fine and fine roots; common medium prominent strong brown (7.5YR 5/8) and few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; few fine distinct black (2.5Y 2.5/1) masses of manganese throughout; slightly acid; clear smooth boundary.

BE—7 to 13 inches; brown (10YR 5/3) silty clay loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; friable; common fine roots; few fine faint light brownish gray (10YR 6/2) clay depletions and few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron throughout; slightly acid; clear wavy boundary.

2Btg1—13 to 26 inches; dark gray (10YR 4/1) silty clay loam; moderate thick platy structure parting to weak fine subangular blocky; firm; common fine and few medium roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron and few fine prominent white (10YR 8/1) masses throughout; moderately acid; clear wavy boundary.

2Btg2—26 to 37 inches; dark gray (10YR 4/1) silty clay; weak medium prismatic structure; firm; common fine and medium roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; common fine faint gray (10YR 5/1) iron depletions and few fine prominent white (10YR 8/1) masses throughout; 1 percent rounded gravel and 1 percent subangular limestone-cherty gravel; neutral; clear wavy boundary.

2Btg3—37 to 47 inches; gray (2.5Y 5/1) silty clay; weak coarse prismatic structure; firm; common fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; few fine faint gray (10YR 6/1) iron depletions and few fine prominent white (10YR 8/1) masses throughout; 1 percent angular gravel; neutral; clear wavy boundary.

2Btg4—47 to 61 inches; gray (2.5Y 5/1) clay loam; weak coarse prismatic structure; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine distinct black (2.5Y 2.5/1) masses of manganese and few fine prominent white (10YR 8/1) masses throughout; 1 percent limestone-cherty gravel and 1 percent rounded igneous-granite gravel; neutral; clear wavy boundary.

2BCg—61 to 80 inches; light brownish gray (2.5Y 6/2) clay loam; weak coarse prismatic structure; firm; few fine prominent yellowish brown (10YR 5/6) and common medium prominent brownish yellow (10YR 6/8) masses of oxidized iron throughout; 2 percent limestone-cherty gravel; neutral.

Range in Characteristics

Thickness of the loess: 0 to 20 inches
Depth to the base of soil development: More than 42 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 5
Chroma—1 to 4
Texture—silt loam or silty clay loam

E or BE horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam or silty clay loam

Bt, Btg, or 2Btg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 3
Texture—clay loam, clay, silty clay loam, or silty clay
Content of rock fragments—0 to 5 percent by volume

2BCg or 2Cg horizon(s) (where present):
Hue—10YR, 7.5YR, 5Y, or N
Value—4 to 6
Chroma—0 to 6
Texture—clay, clay loam, or loam
Content of rock fragments—2 to 15 percent by volume

7C2—Atlas silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes (fig. 4)

Map Unit Composition

Atlas and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less clay in the upper part of the subsoil

Dissimilar soils:
- The well drained Hickory soils in positions downslope from those of the Atlas soil
- The moderately well drained Ava and Homen soils in the higher positions

Properties and Qualities of the Atlas Soil

Parent material: Paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 1.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

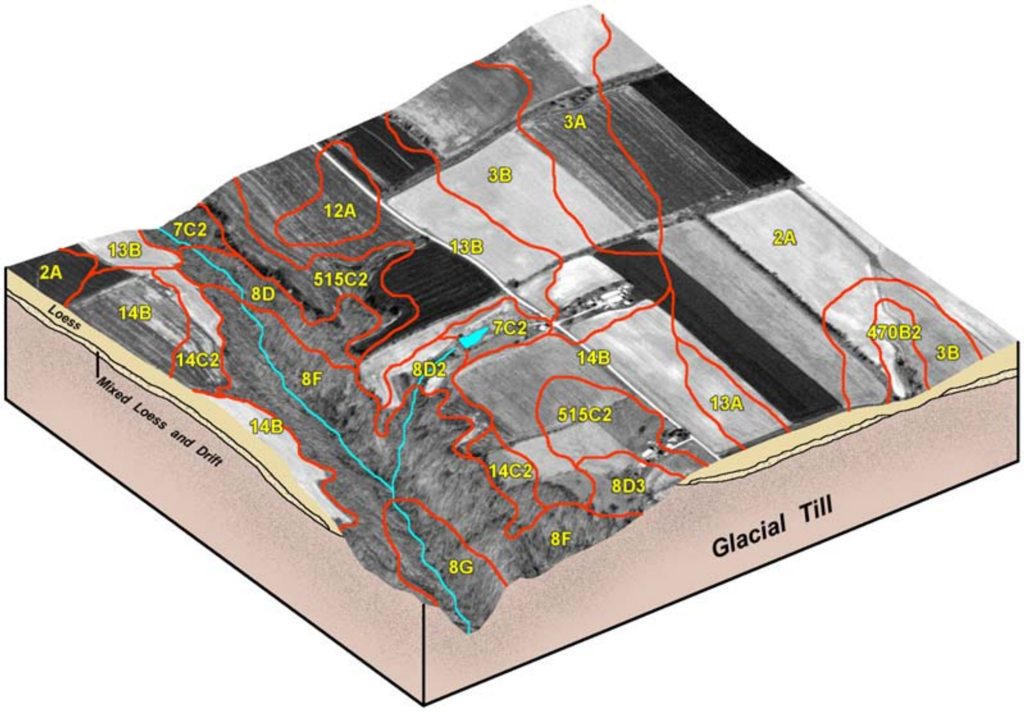


Figure 4.—Typical pattern of nearly level to very steep upland soils that formed in loess, in loess over mixed loess and drift, in loess over a paleosol that formed in till, or entirely in till. These soils typically occur in the eastern part of the county.

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

7C3—Atlas silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Atlas and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have less clay in the upper part of the subsoil

Dissimilar soils:
- The well drained Hickory soils in positions downslope from those of the Atlas soil
- The moderately well drained Ava and Homen soils in the higher positions

Properties and Qualities of the Atlas Soil

Parent material: Paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 1.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

7D2—Atlas silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Atlas and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less clay in the upper part of the subsoil

Dissimilar soils:
- The well drained Hickory soils in positions downslope from those of the Atlas soil
- The moderately well drained Ava and Homen soils in the higher positions

Properties and Qualities of the Atlas Soil

Parent material: Paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 1.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High

Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

897C2—Bunkum-Atlas silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Bunkum—shoulders and backslopes; Atlas—backslopes (fig. 5)

Map Unit Composition

Bunkum and similar soils: 50 percent
Atlas and similar soils: 40 percent
Dissimilar soils: 10 percent

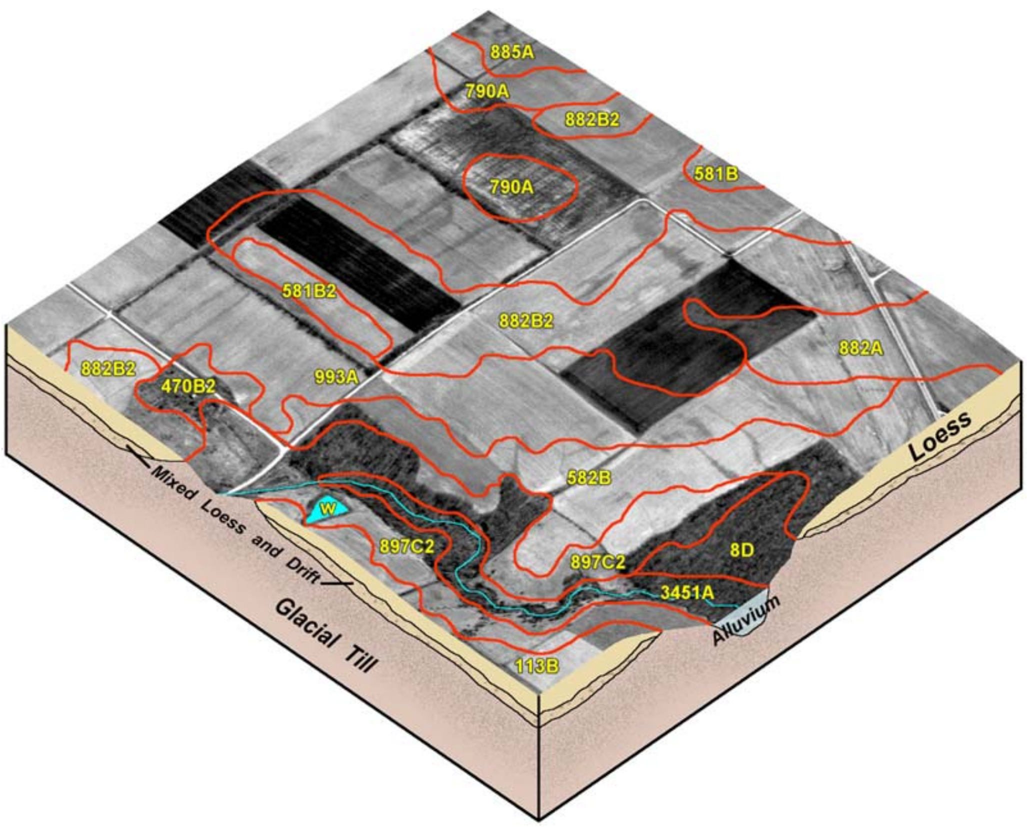


Figure 5.—Typical pattern of nearly level to steep upland soils that formed in loess, in loess over mixed loess and drift, in loess over a paleosol that formed in till, entirely in a paleosol, or entirely in till. Some of the soils in nearly level to gently sloping areas have a concentration of exchangeable sodium in the subsoil. The nearly level soils on flood plains formed in alluvium.

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The somewhat poorly drained Marine and moderately well drained Homen soils in landform positions above those of the Bunkum and Atlas soils

Properties and Qualities of the Bunkum Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 1.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Bunkum—3e; Atlas—3e
Prime farmland category: Not prime farmland
Hydric soil status: Bunkum—not hydric; Atlas—not hydric

Ava Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Ava silt loam, 2 to 5 percent slopes, at an elevation of 440 feet; Edwards County,

Illinois; approximately 925 feet south and 1,575 feet west of the northeast corner of sec. 17, T. 1 N., R. 10 E.; USGS West Salem, Illinois, topographic quadrangle; lat. 38 degrees 31 minutes 24 seconds N. and long. 88 degrees 7 minutes 5 seconds W., UTM Zone 16, 402538 Easting, 4264475 Northing, NAD83:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

E—6 to 10 inches; brown (10YR 4/3) silt loam; weak medium platy structure; friable; few fine roots; strongly acid; clear smooth boundary.

BE—10 to 14 inches; yellowish brown (10YR 5/6) silt loam; moderate fine and medium subangular blocky structure; friable; common fine roots; strongly acid; clear smooth boundary.

Bt—14 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; strong fine and medium subangular blocky structure; firm; few fine roots; very few distinct brown (7.5YR 5/4) clay films and very few faint light yellowish brown (10YR 6/4) clay depletions on faces of peds; very strongly acid; clear smooth boundary.

Bt/E—24 to 27 inches; yellowish brown (10YR 5/4) silty clay loam (Bt) and light yellowish brown (10YR 6/4) silt (E), light gray (10YR 7/2) dry; the E material occurs as common distinct clay depletions on faces of peds and as fillings in spaces between peds; moderate fine and medium subangular blocky structure; firm; few fine roots; common medium faint brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; very few fine distinct black (10YR 2/1) manganese concretions; very strongly acid; clear smooth boundary.

B´t—27 to 34 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct brown (10YR 4/3) clay films and few distinct light gray (10YR 7/2) clay depletions on faces of peds; common fine distinct grayish brown (10YR 5/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; very strongly acid; gradual smooth boundary.

2Btx1—34 to 44 inches; grayish brown (10YR 5/2) silty clay loam; moderate very coarse prismatic structure parting to weak coarse subangular blocky; very firm; cracks between polygons filled with light gray (10YR 7/1) silt loam; common coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common coarse prominent dark red (2.5YR 3/6) and distinct brown (7.5YR 4/4) weakly cemented iron-manganese nodules and few fine distinct black (10YR 2/1) manganese concretions; about 12 percent sand; brittle; very strongly acid; gradual smooth boundary.

2Btx2—44 to 50 inches; brown (10YR 5/3) loam; weak very coarse prismatic structure parting to weak coarse subangular blocky; very firm; few vertical streaks and cracks between polygons filled with light gray (10YR 7/1) silt; common coarse faint dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese and common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; few fine distinct black (10YR 2/1) manganese concretions; about 30 percent sand; brittle; very strongly acid; gradual smooth boundary.

2C—50 to 60 inches; brown (10YR 5/3) loam; massive; friable; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid.

Range in Characteristics

Depth to the fragipan: 25 to 40 inches
Thickness of the loess: 30 to 55 inches
Depth to the base of soil development: More than 48 inches

Ap or A horizon(s):
Hue—10YR

Value—4 or 5
Chroma—2 or 3
Texture—silt loam

E or BE horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam

Bt, Bt/E, and B´t horizons:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam

Btx, Bx, 2Bx, or 2Btx horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 8
Texture—silt loam, silty clay loam, loam, or clay loam
Content of rock fragments—0 to 4 percent by volume

2C or 2Btb horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—loam, silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 2 percent by volume

14B—Ava silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders (fig. 4)

Map Unit Composition

Ava and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand in the lower part of the subsoil
- Soils that have slopes of more than 5 percent

Dissimilar soils:
- The well drained Hickory and somewhat poorly drained Atlas soils on backslopes

Properties and Qualities of the Ava Soil

Parent material: Loess over mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 25 to 40 inches to a fragipan
Available water capacity: About 8.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 1.5 to 3.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

14C2—Ava silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders (fig. 4)

Map Unit Composition

Ava and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer

Dissimilar soils:
- The somewhat poorly drained Atlas and well drained Hickory soils on backslopes

Properties and Qualities of the Ava Soil

Parent material: Loess over mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 25 to 40 inches to a fragipan
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 1.5 to 3.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Biddle Series

Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Biddle silt loam, in an area of Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes, at an elevation of about 475 feet; St. Clair County, Illinois; approximately 1,290 feet south and 1,555 feet east of the northwest corner of sec. 1, T. 2 S., R. 8 W.; USGS Freeburg, Illinois, topographic quadrangle; lat. 38 degrees 23 minutes 32 seconds N. and long. 89 degrees 56 minutes 10 seconds W., UTM Zone 16, 243561 Easting, 4253423 Northing, NAD83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many very fine roots; few fine spherical faint black (10YR 2/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; slightly acid; abrupt smooth boundary.

A—7 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; many very fine roots; few fine spherical faint black (10YR 2/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.

BE—13 to 16 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to weak fine granular; friable; common very fine roots; common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine spherical faint black (10YR 2/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.

Bt—16 to 25 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine spherical distinct black (7.5YR 2.5/1) masses of manganese with sharp prominent strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.

Btng1—25 to 36 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium spherical distinct black (7.5YR 2.5/1) masses of manganese with clear prominent strong brown (7.5YR 4/6) boundaries; slightly alkaline; clear smooth boundary.

Btng2—36 to 46 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium and coarse irregular prominent black (7.5YR 2.5/1) masses of manganese with clear prominent strong brown (7.5YR 4/6) boundaries; slightly alkaline; clear smooth boundary.

Btng3—46 to 55 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium and coarse irregular prominent black (7.5YR 2.5/1) masses of

manganese with clear prominent strong brown (7.5YR 4/6) boundaries; slightly alkaline; gradual smooth boundary.

BCtng—55 to 62 inches; grayish brown (2.5Y 5/2) silt loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common fine and medium prominent brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; common medium and coarse irregular prominent black (7.5YR 2.5/1) masses of manganese and prominent dark brown (7.5YR 3/3) masses of oxidized iron and manganese with diffuse prominent strong brown (7.5YR 4/6) boundaries; slightly alkaline; gradual smooth boundary.

Cg1—62 to 76 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine and medium irregular prominent black (7.5YR 2.5/1) and dark brown (7.5YR 3/3) masses of oxidized iron and manganese with diffuse prominent strong brown (7.5YR 4/6) boundaries; slightly alkaline; clear smooth boundary.

2Cg2—76 to 80 inches; brown (7.5YR 5/2) silt loam; massive; friable; many fine and medium distinct brown (7.5YR 5/4) masses of oxidized iron in the matrix; common fine and medium irregular distinct black (7.5YR 2.5/1) and dark brown (7.5YR 3/3) masses of oxidized iron and manganese with diffuse prominent strong brown (7.5YR 4/6) boundaries; 1 percent pebbles; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Depth to the base of soil development: 40 to 72 inches
Thickness of the loess: 60 to 80 inches
Concentration of exchangeable sodium: Averages 5 to 15 percent in the subsoil

Ap and A horizons:
Hue—10YR
Value—2 to 3 (4 or 5 dry)
Chroma—1 or 2
Texture—silt loam

AE, EA, BA, or BE horizon(s) (where present):
Hue—10YR
Value—4 or 5 (6 or 7 dry)
Chroma—1 or 2
Texture—silt loam

Bt, Btng, or BCtng horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—3 to 5 in the upper part; 4 to 6 in the lower part
Chroma—1 to 4
Texture—silty clay loam or silty clay in the upper part; silty clay loam or silt loam in the lower part

Cg or 2Cg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—5 or 6
Chroma—0 to 2
Texture—commonly silt loam; less commonly silty clay loam, clay loam, or loam
Content of rock fragments—0 to 1 percent by volume

790A—Herrick-Biddle silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs and summits (fig. 5)

Map Unit Composition

Herrick and similar soils: 60 percent
Biddle and similar soils: 30 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The poorly drained Piasa soils, which have a high concentration of exchangeable sodium in the subsoil; in depressions

Properties and Qualities of the Herrick Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Biddle Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Herrick—1; Biddle—1
Prime farmland category: Prime farmland
Hydric soil status: Herrick—not hydric; Biddle—not hydric

894A—Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions
Position on the landform: Herrick and Biddle—talfs and summits; Piasa—talfs, toeslopes, and depressions (fig. 6)

Map Unit Composition

Herrick and similar soils: 40 percent
Biddle and similar soils: 35 percent
Piasa and similar soils: 25 percent

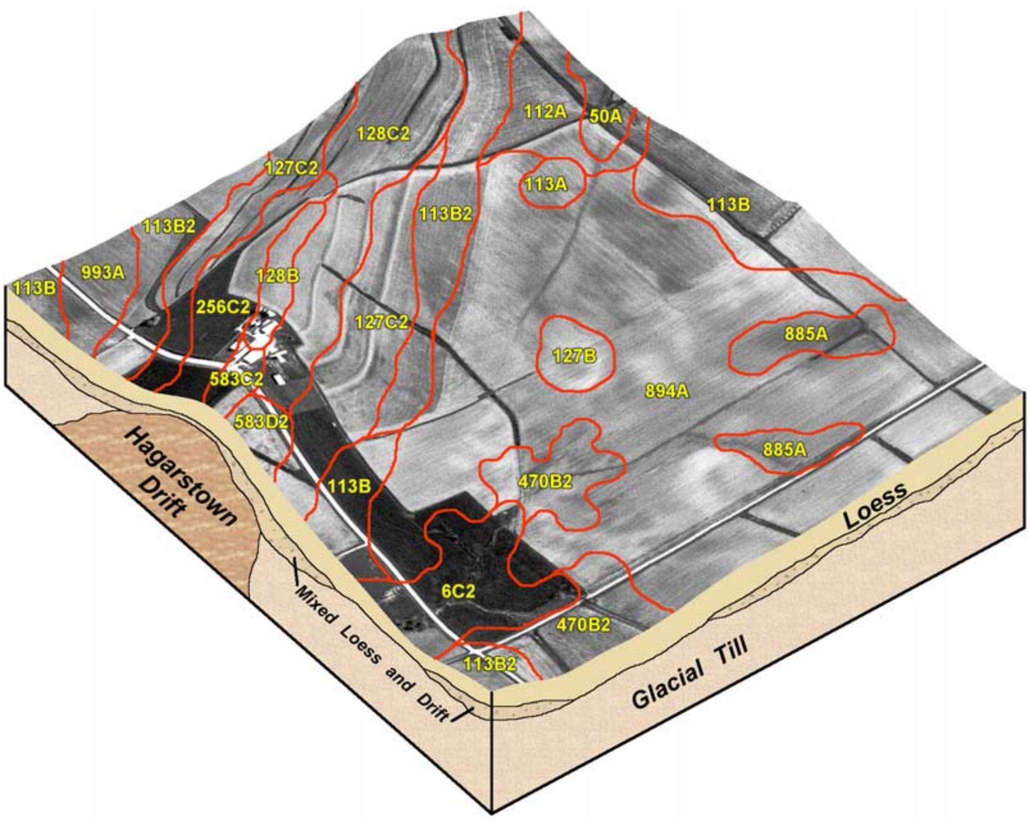


Figure 6.—Typical pattern of nearly level to strongly sloping upland soils in the “ridged drift” area of the county. These soils formed in loess, in loess over mixed loess and drift, in loess over mixed loess and drift over loamy drift, entirely in loamy drift, or in loess over a paleosol that formed in till.

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have a lighter colored surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet

Properties and Qualities of the Herrick Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Biddle Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Piasa Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 9 to 17 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Herrick—1; Biddle—1; Piasa—3w
Prime farmland category: Prime farmland
Hydric soil status: Herrick—not hydric; Biddle—not hydric; Piasa—hydric

Blair Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Blair silt loam, 10 to 18 percent slopes, severely eroded, at an elevation of 485 feet; Perry County, Illinois; approximately 1,280 feet north and 700 feet west of the center of sec. 15, T. 4 S., R. 2 W.; USGS Todds Mill, Illinois, topographic quadrangle; lat. 38 degrees 10 minutes 55 seconds N. and long. 89 degrees 18 minutes 30 seconds W., UTM Zone 16, 297823 Easting, 4228520 Northing, NAD83:

Ap—0 to 5 inches; yellowish brown (10YR 5/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure; friable; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 3 percent sand; slightly acid; abrupt smooth boundary.

Bt1—5 to 12 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few distinct very dark grayish brown (10YR 3/2) organic coatings and common distinct brown (10YR 4/3) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; 14 percent sand and 1 percent fine pebbles; very strongly acid; clear smooth boundary.

Bt2—12 to 20 inches; grayish brown (10YR 5/2) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 15 percent sand; very strongly acid; gradual smooth boundary.

Bt3—20 to 30 inches; dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds; common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; 18 percent sand and 2 percent fine and medium pebbles; strongly acid; clear smooth boundary.

Bt4—30 to 36 inches; light brownish gray (10YR 6/2) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions, many medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese, and common fine prominent black (N 2.5/) manganese nodules in the matrix; 20 percent sand and 2 percent fine and medium pebbles; slightly acid; clear smooth boundary.

Btg—36 to 47 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few faint grayish brown (10YR 5/2) clay films on faces of peds; common medium prominent dark brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; 1 percent fine and medium pebbles; 15 percent sand; neutral; clear smooth boundary.

BCg—47 to 55 inches; gray (10YR 6/1) silt loam; weak coarse prismatic structure; friable; many coarse prominent yellowish red (5YR 4/6) and few medium prominent yellowish brown (10YR 5/6) masses of oxidized iron and few faint gray (10YR 5/1) iron depletions in the matrix; 1 percent fine and medium pebbles; 22 percent sand; neutral; gradual smooth boundary.

Cg—55 to 71 inches; gray (5Y 6/1) silt loam; massive; friable; common coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron and few fine faint gray (5Y 5/1) iron depletions in the matrix; 2 percent fine and medium pebbles; 20 percent sand; neutral; clear smooth boundary.

2Btgb—71 to 80 inches; gray (5Y 6/1) clay loam; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; common distinct dark gray (5Y 4/1) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; about 5 percent fine and medium pebbles; slightly alkaline.

Range in Characteristics

Depth to the base of soil development: 40 to 68 inches

Ap or A horizon(s):
Hue—10YR
Value—4 or 5 (6 or 7 dry)
Chroma—2 to 4
Texture—silt loam or silty clay loam

E horizon(s) (where present):
Hue—10YR
Value—4 or 5 (6 or 7 dry)
Chroma—2 to 4
Texture—silt loam

Bt or Btg horizon(s):
Hue—10YR or 2.5Y; less commonly 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam, silt loam, or clay loam
Content of rock fragments—0 to 10 percent by volume

BCg horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam, loam, silty clay loam, or clay loam
Content of rock fragments—0 to 10 percent by volume

Cg horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or loam
Content of rock fragments—0 to 10 percent by volume

2Btgb horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 10 percent by volume

5C2—Blair silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Blair and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil and underlying material
- Soils that have more clay in the surface layer
- Soils that have more clay in the upper part of the subsoil
- Soils that have less sand in the upper part of the subsoil

Dissimilar soils:
- The well drained Hickory soils in positions downslope from those of the Blair soil
- The moderately well drained Ava and Homen soils in the higher positions

Properties and Qualities of the Blair Soil

Parent material: Mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

5C3—Blair silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Blair and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the subsoil and underlying material
- Soils that have less clay in the surface layer
- Soils that have more clay in the upper part of the subsoil
- Soils that have less sand in the upper part of the subsoil

Dissimilar soils:
- The well drained Hickory soils in positions downslope from those of the Blair soil
- The moderately well drained Ava and Homen soils in the higher positions

Properties and Qualities of the Blair Soil

Parent material: Mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Bluford Series

Taxonomic classification: Fine, smectitic, mesic Aeric Fragic Epiaqualfs

Typical Pedon

Bluford silt loam, 0 to 2 percent slopes, at an elevation of 549 feet; Crawford County, Illinois; approximately 1,585 feet south and 925 feet west of the northeast corner of sec. 16, T. 8 N., R. 13 W.; USGS Annapolis, Illinois, topographic quadrangle; lat. 39 degrees 8 minutes 22.7 seconds N. and long. 87 degrees 51 minutes 27.9 seconds W., UTM Zone 16, 425872 Easting, 4332623 Northing, NAD83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; very friable; few very fine roots; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; neutral; abrupt smooth boundary.

E1—7 to 15 inches; light brownish gray (10YR 6/2) silt loam, white (2.5Y 8/1) dry; moderate medium platy structure; very friable; few very fine roots; many medium distinct yellowish brown (10YR 5/4) and few medium faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; common fine spherical prominent black (10YR 2/1) masses of manganese throughout; very strongly acid; clear smooth boundary.

E2—15 to 20 inches; pale brown (10YR 6/3) silt loam, pale yellow (2.5Y 8/2) dry; moderate medium platy structure parting to moderate very fine subangular blocky; very friable; few very fine roots; common prominent white (10YR 8/1) (dry) clay depletions on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; few fine spherical prominent black (10YR 2/1) masses of manganese throughout; very strongly acid; clear smooth boundary.

Btg—20 to 35 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; few very fine roots; common faint grayish brown (10YR 5/2) clay films on faces of peds; common medium faint gray (10YR 5/1) iron depletions in the matrix; common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese and many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common prominent strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; very strongly acid; clear smooth boundary.

2Btgx—35 to 42 inches; grayish brown (10YR 5/2) silty clay loam; moderate coarse prismatic structure; firm; few faint grayish brown (10YR 5/2) clay films and common prominent white (10YR 8/1) silt coatings on faces of peds; few fine faint gray (10YR 6/1) iron depletions and common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; common prominent strong brown (7.5YR 5/6) iron stains on faces of peds and in pores; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; brittle; very strongly acid; gradual smooth boundary.

2Btg—42 to 60 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure; very firm; few faint dark gray (10YR 4/1) clay films in root channels; common medium distinct yellowish brown (10YR 5/4) and common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine spherical distinct black (10YR 2/1) masses of manganese throughout; about 1 percent gravel; very strongly acid.

Range in Characteristics

Thickness of the loess: 30 to 55 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5 (6 or 7 dry)
Chroma—1 to 3
Texture—silt loam

E, EB, or BE horizon(s) (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silt loam

Bt and/or Btg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 3
Texture—silty clay loam or silty clay

2Btgx and/or 2Bgx horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 or 2 (ranges to 8 in multicolored horizons)

Texture—silt loam, loam, or silty clay loam
Content of rock fragments—0 to 2 percent by volume

2Btg or 2BCg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2 (ranges to 6 in multicolored horizons)
Texture—silty clay loam, silt loam, or loam
Content of rock fragments—0 to 2 percent by volume

13A—Bluford silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits (fig. 4)

Map Unit Composition

Bluford and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand in the lower part of the subsoil
- Soils that have less clay in the subsoil

Dissimilar soils:
- The poorly drained Cisne and Wynoose soils on flats

Properties and Qualities of the Bluford Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 30 to 55 inches to a fragipan
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

13B—Bluford silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders (fig. 4)

Map Unit Composition

Bluford and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand in the lower part of the subsoil
- Soils that have less clay in the upper part of the subsoil

Dissimilar soils:
- The poorly drained Cisne and Wynoose soils on flats

Properties and Qualities of the Bluford Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 30 to 55 inches to a fragipan
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Bunkum Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Bunkum silt loam, 5 to 10 percent slopes, eroded, at an elevation of 660 feet; Adams County, Illinois; approximately 2,053 feet south and 2,388 feet west of the northeast corner of sec. 23, T. 2 S., R. 8 W.; USGS Quincy East, Illinois, topographic quadrangle; lat. 39 degrees 53 minutes 2 seconds N. and long. 91 degrees 17 minutes 31 seconds W., UTM Zone 15, 646061 Easting, 4416272 Northing, NAD83:

Ap—0 to 4 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thick platy structure parting to weak fine subangular blocky; friable; common fine and medium roots throughout; few fine prominent black (2.5Y 2.5/1) manganese concretions and few fine distinct light gray (10YR 7/2) clay depletions throughout; neutral; abrupt smooth boundary.

AE—4 to 7 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; friable; common fine roots throughout; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron throughout; slightly acid; clear smooth boundary.

Bt1—7 to 10 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; few fine roots throughout; few distinct brown

(10YR 4/3) clay films on faces of peds; few fine prominent black (2.5Y 2.5/1) manganese concretions throughout, few fine prominent black (2.5Y 2.5/1) masses of manganese between peds, and few fine distinct light brownish gray (10YR 6/2) iron depletions between peds; moderately acid; clear smooth boundary.

Bt2—10 to 22 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few fine roots throughout; common distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron, common fine prominent black (2.5Y 2.5/1) masses of manganese, and common medium distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.

Bt3—22 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse prismatic structure; friable; few fine roots throughout; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; many medium faint brown (10YR 5/3) masses of oxidized iron and manganese, common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron, and common fine prominent black (2.5Y 2.5/1) masses of manganese throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; gradual wavy boundary.

BCt—34 to 50 inches; yellowish brown (10YR 5/4) silt loam; weak coarse prismatic structure; friable; few fine roots throughout; very few distinct dark yellowish brown (10YR 4/4) clay films in root channels and/or pores; common medium faint brown (10YR 5/3) masses of oxidized iron and manganese, few medium prominent yellowish brown (10YR 5/8) masses of oxidized iron throughout, few fine prominent black (2.5Y 2.5/1) masses of manganese between peds, and many medium distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; gradual wavy boundary.

2C1—50 to 65 inches; pale brown (10YR 6/3) silt loam; massive; friable; few fine roots between peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron, common medium faint brown (10YR 5/3) masses of oxidized iron and manganese, and few fine prominent black (2.5Y 2.5/1) masses of manganese throughout; many medium faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear wavy boundary.

2C2—65 to 78 inches; pale brown (10YR 6/3) silt loam; massive; friable; few fine roots between peds; many coarse faint yellowish brown (10YR 5/4) and few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron throughout; few fine prominent (2.5Y 2.5/1) masses of manganese and many coarse faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; gradual wavy boundary.

2C3—78 to 85 inches; yellowish brown (10YR 5/4) silt loam; massive; firm; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron and common fine and medium prominent black (2.5Y 2.5/1) masses of manganese throughout; few coarse distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid.

Range in Characteristics

Thickness of the loess: 24 to 60 inches
Depth to the base of soil development: 24 to 60 inches

Ap or A horizon(s):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam or silty clay loam

E or AE horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt or Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam or silt loam

BCt, BCtg, BC, BCg, CB, or CBg horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silt loam

2C or 2Cg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—commonly silt loam; less commonly loam, clay loam, or silty clay loam

515C2—Bunkum silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes (fig. 4)

Map Unit Composition

Bunkum and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have more clay in the lower part of the subsoil
- Soils that have a seasonal high water table at a depth of less than 1 foot
- Soils that have less sand in the lower part of the subsoil and in the underlying material

Dissimilar soils:
- The somewhat poorly drained Marine soils in the higher, less sloping positions

Properties and Qualities of the Bunkum Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

515C3—Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Bunkum and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have more clay in the lower part of the subsoil
- Soils that have less sand in the lower part of the subsoil and in the underlying material

Dissimilar soils:
- The somewhat poorly drained Marine soils in the higher, less sloping positions

Properties and Qualities of the Bunkum Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 1.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

897C2—Bunkum-Atlas silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Bunkum—shoulders and backslopes; Atlas—backslopes (fig. 5)

Map Unit Composition

Bunkum and similar soils: 50 percent
Atlas and similar soils: 40 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The somewhat poorly drained Marine and moderately well drained Homen soils in landform positions above those of the Bunkum and Atlas soils

Properties and Qualities of the Bunkum Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Atlas Soil

Parent material: Paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 1.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Bunkum—3e; Atlas—3e
Prime farmland category: Not prime farmland
Hydric soil status: Bunkum—not hydric; Atlas—not hydric

Campton Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Campton silt loam, 2 to 5 percent slopes, at an elevation of 580 feet; Montgomery County, Illinois; approximately 2,494 feet west and 1,271 feet south of the northeast corner of sec. 36, T. 9 N., R. 4 W.; USGS Hillsboro, Illinois, topographic quadrangle; lat. 39 degrees 11 minutes 4.2 seconds N. and long. 89 degrees 28 minutes 55.5 seconds W., UTM Zone 16, 285617 Easting, 4340185 Northing, NAD83:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thick platy structure parting to weak fine subangular blocky; friable; common fine roots and many very fine roots; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; neutral; clear smooth boundary.

AB—9 to 12 inches; 70 percent brown (10YR 4/3) and 30 percent yellowish brown (10YR 5/6) silt loam; weak fine subangular blocky structure; friable; common fine roots and many very fine roots; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; neutral; clear smooth boundary.

Bt1—12 to 19 inches; yellowish brown (10YR 5/6) silty clay loam; weak fine subangular blocky structure; friable; common distinct light brownish gray (10YR 6/2) silt coatings and common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine spherical prominent black (10YR 2/1) masses of manganese throughout; moderately acid; clear smooth boundary.

Bt2—19 to 26 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate fine subangular blocky structure; firm; common fine roots and many very fine roots; common distinct light brownish gray (10YR 6/2) silt coatings on faces of peds and common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine spherical prominent black (10YR 2/1) masses of manganese and common fine irregular distinct strong brown (7.5YR 5/8) masses of oxidized iron throughout; strongly acid; gradual smooth boundary.

Bt3—26 to 34 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate fine subangular blocky structure; firm; many very fine roots; common distinct light brownish gray (10YR 6/2) silt coatings on faces of peds and many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine spherical prominent black (10YR 2/1) masses of manganese and common fine irregular distinct strong brown (7.5YR 5/8) masses of oxidized iron throughout; few fine irregular prominent light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.

Bt4—34 to 50 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; common very fine roots; few distinct light brownish gray (10YR 6/2) silt coatings on faces of peds and few faint dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine distinct spherical prominent black (10YR 2/1) masses of manganese and few fine irregular distinct strong brown (7.5YR 5/8) masses of oxidized iron throughout; few fine irregular prominent light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; clear smooth boundary.

2BC1—50 to 66 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; firm; common very fine roots; few fine irregular

distinct black (10YR 2/1) masses of manganese and few fine irregular distinct strong brown (7.5YR 4/6) masses of oxidized iron throughout; common fine irregular distinct light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; clear smooth boundary.

2BC2—66 to 71 inches; brown (10YR 4/3) silt loam; weak coarse subangular blocky structure; firm; few fine spherical distinct black (10YR 2/1) masses of manganese and common fine irregular prominent strong brown (7.5YR 4/6) masses of oxidized iron throughout; many coarse irregular distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.

2C1—71 to 77 inches; yellowish brown (10YR 5/4) loam; massive; friable; few fine spherical prominent black (10YR 2/1) masses of manganese and many fine irregular distinct strong brown (7.5YR 4/6) masses of oxidized iron throughout; many fine irregular distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.

2C2—77 to 92 inches; yellowish brown (10YR 5/4) loam; massive; friable; few fine cylindrical distinct black (10YR 2/1) masses of manganese lining pores, few fine irregular distinct black (10YR 2/1) masses of manganese throughout, and many fine irregular distinct strong brown (7.5YR 4/6) masses of oxidized iron throughout; common fine irregular distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid.

Range in Characteristics

Depth to the base of soil development: 44 to 60 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5
Chroma—1 to 3
Texture—silt loam

AB or E horizon(s) (where present):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam

Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt or 2BC horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or loam
Content of rock fragments—0 to 6 percent by volume

2C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or loam
Content of rock fragments—0 to 6 percent by volume

680B—Campton silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Risers and treads (fig. 7)

Map Unit Composition

Campton and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand in the lower part of the subsoil and in the underlying material
- Soils that have a seasonal high water table at a depth of less than 24 inches

Dissimilar soils:
- Soils that are subject to rare flooding

Properties and Qualities of the Campton Soil

Parent material: Loess over outwash
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Chauncey Series

Taxonomic classification: Fine, smectitic, mesic Typic Argialbolls

Typical Pedon

Chauncey silt loam, 0 to 2 percent slopes, at an elevation of about 497 feet; Bond County, Illinois; approximately 50 feet north and 115 feet east of the southwest corner of sec. 20, T. 4 N., R. 3 W.; USGS Beaver Creek, Illinois, topographic quadrangle; lat. 38 degrees 46 minutes 20.1 seconds N. and long. 89 degrees 27 minutes 56.1 seconds W., UTM Zone 16, 285860 Easting, 4294185 Northing, NAD83:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; slightly acid; abrupt smooth boundary.

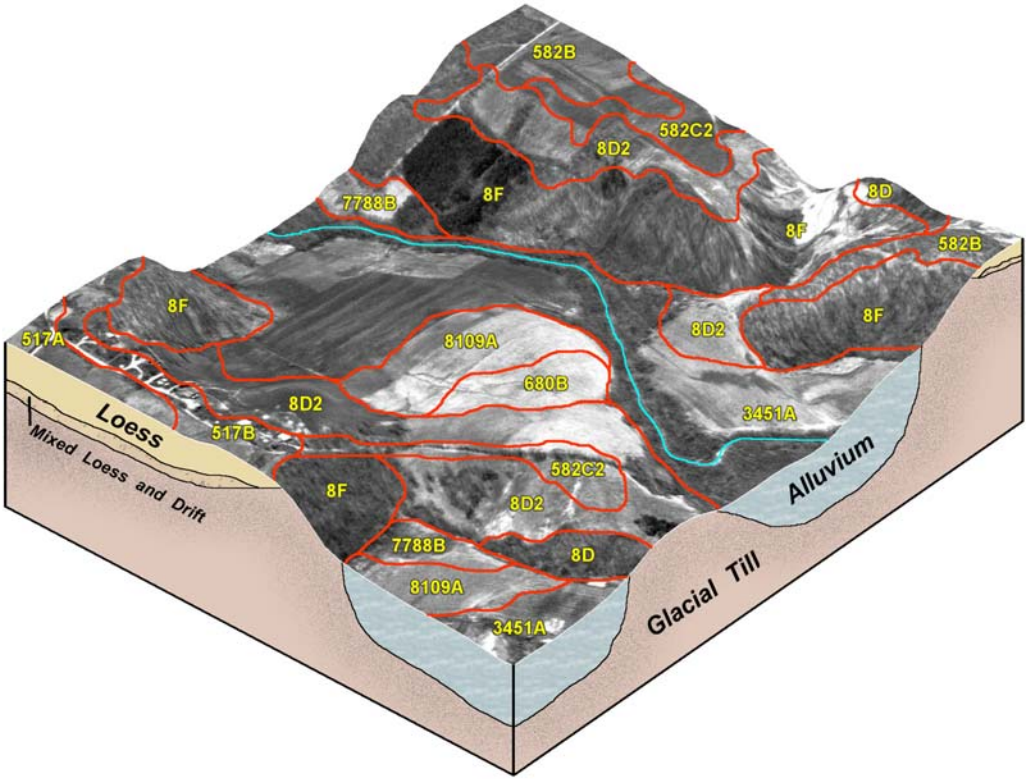


Figure 7.—Typical pattern of nearly level to steep soils in areas along major streams. The upland forest soils formed in loess over mixed loess and drift, in loess over outwash, entirely in loess, or entirely in till. The gently sloping soils on stream terraces formed in loess over outwash. The nearly level to gently sloping soils on footslopes and flood plains formed in alluvium.

A—10 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; slightly acid; gradual smooth boundary.

Eg1—13 to 19 inches; dark grayish brown (10YR 4/2) silt loam; weak thick platy structure parting to weak fine granular; friable; few fine prominent dark yellowish brown (10YR 4/6) masses of oxidized iron throughout; moderately acid; gradual smooth boundary.

Eg2—19 to 28 inches; grayish brown (10YR 5/2) silt loam; weak medium platy structure parting to weak fine granular; friable; common fine prominent dark yellowish brown (10YR 4/6) masses of oxidized iron and few fine distinct black (10YR 2/1) manganese concretions throughout; strongly acid; abrupt smooth boundary.

Btg1—28 to 34 inches; dark gray (10YR 4/1) silty clay; strong medium prismatic structure parting to strong medium angular blocky; very firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many coarse prominent dark yellowish brown (10YR 4/6) masses of oxidized iron; strongly acid; gradual smooth boundary.

Btg2—34 to 50 inches; gray (10YR 5/1) silty clay loam; moderate coarse prismatic structure parting to weak medium and coarse angular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron; strongly acid; gradual smooth boundary.

Btg3—50 to 60 inches; gray (10YR 6/1) silty clay loam; weak coarse prismatic structure; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds;

common fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 15 inches
Depth to the top of the argillic horizon: 24 to 36 inches
Depth to the base of soil development: 40 to 70 inches
Other features: Some pedons have a BE or EBg horizon.

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

E or Eg horizon(s):
Hue—10YR
Value—4 to 7
Chroma—1 or 2
Texture—silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay

BCg, Cg, or 2Cg horizon(s) (where present):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or loam

287A—Chauncey silt loam, 0 to 2 percent slopes

Setting

Landform: Knolls and ground moraines
Position on the landform: Toeslopes on knolls and talfs on ground moraines

Map Unit Composition

Chauncey and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils in which the surface soil is less than 24 inches thick
- Soils that have less clay in the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have a thinner dark surface layer

Properties and Qualities of the Chauncey Soil

Parent material: Slope alluvium and loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: 24 to 36 inches to abrupt textural change
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 5.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Cisne Series

Taxonomic classification: Fine, smectitic, mesic Mollic Albaqualfs

Typical Pedon

Cisne silt loam, 0 to 2 percent slopes, at an elevation of 556 feet; Jasper County, Illinois; approximately 1,960 feet west and 420 feet south of the northeast corner of sec. 3, T. 6 N., R. 9 E.; USGS Newton, Illinois, topographic quadrangle; lat. 38 degrees 59 minutes 36.6 seconds N. and long. 88 degrees 11 minutes 42.9 seconds W., UTM Zone 16, 396490 Easting, 4316734 Northing, NAD83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few fine and medium weakly cemented faint black (10YR 2/1) manganese nodules throughout; moderately acid; abrupt smooth boundary.

Eg1—8 to 13 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate medium platy structure; friable; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine and medium weakly cemented distinct black (10YR 2/1) manganese nodules throughout; strongly acid; clear smooth boundary.

Eg2—13 to 17 inches; light gray (10YR 7/2) and light brownish gray (10YR 6/2) silt loam, very pale brown (10YR 8/2) dry; moderate medium platy structure; friable; common fine and medium weakly cemented prominent black (10YR 2/1) manganese nodules throughout; strongly acid; abrupt smooth boundary.

B/E—17 to 19 inches; gray (10YR 6/1) silty clay loam (B); moderate fine angular blocky structure; friable; common prominent light gray (10YR 7/1) clay depletions on faces of peds (E); common medium prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; common fine and medium weakly cemented prominent black (10YR 2/1) manganese nodules throughout; strongly acid; clear smooth boundary.

Btg1—19 to 28 inches; grayish brown (10YR 5/2) silty clay loam; strong fine prismatic structure parting to strong fine angular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; common medium prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

Btg2—28 to 37 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium angular blocky structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; common medium distinct dark yellowish brown (10YR 4/4) masses

of oxidized iron and manganese in the matrix; strongly acid; clear smooth boundary.

2Btg3—37 to 43 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse angular blocky structure; firm; few faint gray (10YR 5/1) clay films on faces of peds; common medium and coarse distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; about 15 percent sand; few pebbles; strongly acid; gradual smooth boundary.

2BCg—43 to 60 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse angular blocky structure; firm; common coarse distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; about 15 percent sand in the upper part (the content of sand increases with increasing depth); few pebbles; moderately acid; gradual smooth boundary.

2Cg—60 to 80 inches; dark grayish brown (10YR 4/2) silt loam; massive; firm; many coarse prominent gray (N 6/) and light gray (N 7/) iron depletions in the matrix; few fine and medium faint black (10YR 2/1) manganese concretions throughout; about 20 percent sand; about 2 percent pebbles; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 7 to 10 inches
Depth to the top of the argillic horizon: 16 to 21 inches
Thickness of the loess: 30 to 55 inches
Depth to the base of soil development: 40 to 65 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silt loam

Eg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam

B/E, BE, or EB horizon(s) (where present):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—silt loam or silty clay loam

Btg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay

2Btg or 2BCg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, loam, or silt loam
Content of rock fragments—0 to 10 percent by volume

2Cg and 3Ab or 3Btb horizon(s) (where present):
Hue—10YR or 2.5Y

Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam, clay loam, loam, or silt loam
Content of rock fragments—2 to 15 percent by volume

2A—Cisne silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 4)

Map Unit Composition

Cisne and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have less clay in the subsoil
- Soils that have less sand in the lower part of the subsoil and in the underlying material
- Soils that have a seasonal high water table at a depth of more than 1 foot

Dissimilar soils:
- The poorly drained Huey soils, which contain a high concentration of exchangeable sodium in the subsoil; in depressions
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in the higher positions

Properties and Qualities of the Cisne Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 16 to 21 inches to abrupt textural change
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

991A—Cisne-Huey silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs

Map Unit Composition

Cisne and similar soils: 55 percent
Huey and similar soils: 45 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have a lighter colored surface layer and are less gray in the upper part of the subsoil
- Soils that have a dark surface soil more than 24 inches thick

Properties and Qualities of the Cisne Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 16 to 21 inches to abrupt textural change
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Huey Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow to moderately slow
Depth to restrictive feature: 8 to 16 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Cisne—3w; Huey—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Cisne—hydric; Huey—hydric

Coulterville Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs

Typical Pedon

Coulterville silt loam, in an area of Bunkum-Coulterville silt loams, 2 to 5 percent slopes, eroded, at an elevation of about 467 feet; Monroe County, Illinois; approximately 1,320 feet west and 2,100 feet north of the southeast corner of sec. 5, T. 3 S., R. 8 W.; USGS Paderborn, Illinois, topographic quadrangle; lat. 38 degrees 18 minutes 2 seconds N. and long. 90 degrees 0 minutes 12 seconds W., UTM Zone 15, 762065 Easting, 4243419 Northing, NAD83:

Ap—0 to 7 inches; mixed dark grayish brown (10YR 4/2) and brown (10YR 4/3) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine and few fine roots; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron and common fine spherical distinct very dark gray (7.5YR 3/1) iron-manganese nodules; 2 percent exchangeable sodium; moderately acid; abrupt smooth boundary.

Btn—7 to 11 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common very fine and few fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions and common medium prominent strong brown (7.5YR 4/6) and few fine prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; few fine spherical distinct very dark gray (7.5YR 3/1) iron-manganese nodules; 5 percent exchangeable sodium; neutral; clear smooth boundary.

Btng1—11 to 15 inches; gray (5Y 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine and few fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 4/6) and few fine prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; common fine spherical prominent very dark gray (7.5YR 3/1) iron-manganese nodules; 9 percent exchangeable sodium; neutral; clear smooth boundary.

Btng2—15 to 23 inches; gray (5Y 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; common faint light gray (10YR 7/1) (dry) clay depletions and common distinct grayish brown (10YR 5/2) clay films on faces of peds and few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels; common medium prominent brown (7.5YR 4/4) and common fine and medium prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; common fine spherical prominent black (10YR 2/1) manganese nodules; very dark grayish brown (10YR 3/2) vertical krotovinas; 12 percent exchangeable sodium; slightly effervescent throughout; moderately alkaline; clear smooth boundary.

Btkng1—23 to 28 inches; gray (5Y 5/1) silt loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint light gray (10YR 7/1) (dry) clay depletions and few faint grayish brown (10YR 5/2) clay films on faces of peds and few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels; common medium prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; few medium irregular prominent white (10YR 8/1)

carbonate nodules; 14 percent exchangeable sodium; slightly effervescent; moderately alkaline; clear smooth boundary.

Btkng2—28 to 33 inches; light olive gray (5Y 6/2) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common faint light gray (10YR 7/1) (dry) clay depletions, few faint grayish brown (10YR 5/2) clay films, and few prominent black (10YR 2/1) manganese stains on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; common fine and medium irregular prominent dark brown (7.5YR 3/2) masses of oxidized iron and manganese and few medium irregular prominent white (10YR 8/1) carbonate nodules; 10 percent exchangeable sodium; slightly effervescent; moderately alkaline; clear smooth boundary.

Btkn—33 to 39 inches; olive (5Y 5/3) silt loam; weak medium subangular blocky structure; friable; few faint grayish brown (10YR 5/2) clay films on faces of peds; common medium faint light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; many medium irregular prominent dark brown (7.5YR 3/2) masses of oxidized iron and manganese and few medium irregular prominent white (10YR 8/1) carbonate nodules; 8 percent exchangeable sodium; slightly effervescent; moderately alkaline; clear smooth boundary.

BCkn—39 to 56 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few distinct black (10YR 2/1) manganese stains on vertical faces of peds and in root channels; common distinct white (10YR 8/1) carbonate coatings on vertical faces of peds; common medium faint light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 4/6) and common fine and medium irregular distinct dark brown (7.5YR 3/2) masses of oxidized iron and manganese in the matrix; 6 percent exchangeable sodium; slightly effervescent; moderately alkaline; clear smooth boundary.

Ckn—56 to 68 inches; brown (10YR 5/3) silt loam; massive; friable; few prominent white (10YR 8/1) carbonate coatings along faces of cleavage planes; common medium prominent strong brown (7.5YR 4/6) and common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium spherical distinct black (7.5YR 2.5/1) manganese nodules; 5 percent exchangeable sodium; slightly effervescent; moderately alkaline; gradual smooth boundary.

C—68 to 80 inches; brown (7.5YR 5/4) silt loam; massive; friable; common medium prominent light brownish gray (2.5Y 6/2) iron depletions and common fine distinct strong brown (7.5YR 4/6) and few fine spherical distinct dark brown (7.5YR 3/2) masses of oxidized iron and manganese in the matrix; slightly alkaline.

Range in Characteristics

Depth to the base of soil development: 35 to 70 inches
Thickness of the loess: More than 50 inches

Ap or A horizon(s):
Hue—10YR
Value—3 or 4 (5 or 6 dry)
Chroma—2 or 3
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 to 6 (6 to 8 dry)
Chroma—2 or 3
Texture—silt loam

Btn, Btng, Btkng, Btkn, and BCkn horizons:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam or silt loam

Ckn, C, or 2C horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 4
Texture—silt loam, loam, clay loam, or silty clay loam

882A—Oconee-Darmstadt-Coulterville silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and talfs (fig. 5)

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker, darker surface layer
- Soils that are redder in the upper part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils in swales
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2w; Darmstadt—3w; Coulterville—2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

882B—Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Oconee—summits and shoulders; Darmstadt and Coulterville—summits, shoulders, and backslopes

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker dark surface layer

- Soils that are redder in the upper part of the subsoil
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils on flats
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete

Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2e; Darmstadt—3e; Coulterville—2e
Prime farmland category: Prime farmland
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

882B2—Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Oconee—summits and shoulders; Darmstadt and Coulterville—summits, shoulders, and backslopes (fig. 5)

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a thicker surface soil
- Soils that are redder in the upper part of the subsoil
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils on flats
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2e; Darmstadt—3e; Coulterville—2e
Prime farmland category: Prime farmland
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

Cowden Series

Taxonomic classification: Fine, smectitic, mesic Mollic Albaqualfs

Typical Pedon

Cowden silt loam, 0 to 2 percent slopes, at an elevation of about 665 feet; Montgomery County, Illinois; approximately 1,980 feet west and 30 feet north of the southeast corner of sec. 8, T. 9 N., R. 4 W.; USGS Butler, Illinois, topographic quadrangle; lat. 39 degrees 13 minutes 57 seconds N. and long. 89 degrees 33 minutes 18 seconds W., UTM Zone 16, 279470 Easting, 4345699 Northing, NAD83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common very fine and few fine roots; few fine tubular pores; few fine irregular distinct dark brown (10YR 3/3) masses of oxidized iron and manganese; moderately acid; abrupt smooth boundary.

Eg1—8 to 14 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak thick platy structure parting to weak very fine subangular blocky; friable; few very fine roots; common fine and medium tubular and vesicular pores; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds and filling pores; few fine irregular distinct dark brown (10YR 3/3) masses of oxidized iron and manganese; moderately acid; clear smooth boundary.

Eg2—14 to 19 inches; gray (10YR 5/1) silt loam, light gray (10YR 7/1) dry; weak thick platy structure parting to weak very fine subangular blocky; friable; few very fine roots; common fine and medium tubular pores; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; common fine irregular distinct dark brown (10YR 3/3) masses of oxidized iron and manganese; strongly acid; abrupt smooth boundary.

Btg1—19 to 26 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate medium angular and subangular blocky; firm; common very fine roots; few fine tubular pores; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds in the upper 2 inches; many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/4) and prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium irregular distinct black (10YR 2/1) manganese nodules with sharp boundaries; strongly acid; clear smooth boundary.

Btg2—26 to 43 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; many prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium irregular distinct black (10YR 2/1) manganese nodules and prominent dark reddish brown (5YR 3/4) iron-manganese nodules with sharp boundaries; moderately acid; gradual smooth boundary.

Btg3—43 to 50 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse angular blocky structure; firm; few very fine roots; few fine vesicular and tubular pores; few prominent black (10YR 2/1) organo-clay films lining root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few medium and coarse irregular prominent black (10YR 2/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; slightly acid; gradual smooth boundary.

BCtg—50 to 58 inches; gray (10YR 6/1) silt loam; weak medium and coarse angular blocky structure; friable; few very fine roots; few fine vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organo-clay films lining root channels and pores; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine and medium irregular prominent black (10YR 2/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.

Cg—58 to 69 inches; grayish brown (10YR 5/2) silt loam; massive; friable; few fine and medium vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organo-clay films lining root channels and pores; many medium and coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine and medium irregular prominent black (5YR 2.5/1) manganese nodules with diffuse prominent yellowish red (5YR 5/6) boundaries; about 8 percent sand; neutral; clear smooth boundary.

2Btgb—69 to 80 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to weak medium angular blocky; firm;

common medium and coarse vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organo-clay films lining root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few medium and coarse irregular distinct black (5YR 2.5/1) manganese nodules with clear boundaries throughout and prominent yellowish red (5YR 4/6) iron nodules with clear boundaries throughout; about 15 percent sand and 2 percent pebbles; neutral.

Range in Characteristics

Depth to the base of soil development: 40 to 65 inches
Thickness of the loess: More than 55 inches
Other features: Some pedons have a B/E horizon.

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—typically silty clay loam, silty clay, or silt loam

Cg horizon and BCtg or BCg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silt loam or silty clay loam

2Cg, 2Ab, 2Btgb, and 2Bb horizons:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silt loam, loam, silty clay loam, or clay loam
Content of rock fragments—0 to 2 percent by volume

112A—Cowden silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 6)

Map Unit Composition

Cowden and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 12 inches
- Soils that have a thicker dark surface layer
- Soils that have a lighter colored surface layer
- Soils that have more sand in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Piasa soils, which have a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Cowden soil
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in the slightly higher positions

Properties and Qualities of the Cowden Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 12 to 24 inches to abrupt textural change
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

993A—Cowden-Piasa silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 5, fig. 6)

Map Unit Composition

Cowden and similar soils: 55 percent
Piasa and similar soils: 45 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface layer
- Soils that are browner in the upper part of the subsoil

Properties and Qualities of the Cowden Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 12 to 24 inches to abrupt textural change
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Piasa Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 9 to 17 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Cowden—2w; Piasa—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Cowden—hydric; Piasa—hydric

Darmstadt Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Natrudalfs

Typical Pedon

Darmstadt silt loam, in an area of Oconee-Coulterville-Darmstadt silt loams, 2 to 5 percent slopes, at an elevation of about 470 feet; St. Clair County, Illinois; approximately 1,202 feet west and 84 feet south of the northeast corner of sec. 9, T. 2 S., R. 8 W.; USGS Freeburg, Illinois, topographic quadrangle; lat. 38 degrees 22 minutes 52 seconds N. and long. 89 degrees 59 minutes 7 seconds W., UTM Zone 16, 239226 Easting, 4252327 Northing, NAD83:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak very fine granular; friable; many very fine roots; few fine spherical black (10YR 2/1) manganese nodules; 1 percent exchangeable sodium; neutral; abrupt smooth boundary.

E—8 to 11 inches; light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; common very fine roots; many fine and medium spherical prominent black (10YR 2/1) manganese nodules; 4 percent exchangeable sodium; neutral; abrupt smooth boundary.

Btn1—11 to 16 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; many very fine roots; few faint grayish brown (10YR 5/2) clay films on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions and common medium prominent yellowish brown (10YR 5/8) and few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few medium spherical distinct black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; 7 percent exchangeable sodium; very strongly acid; gradual smooth boundary.

Btn2—16 to 21 inches; pale brown (10YR 6/3) silty clay loam; moderate medium prismatic structure parting to strong medium angular blocky; firm; common very fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; many fine faint grayish brown (10YR 5/2) iron depletions and many fine distinct brownish yellow (10YR 6/6), few fine irregular prominent strong brown (7.5YR 5/6), and many fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few medium spherical distinct black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; 12 percent exchangeable sodium; moderately acid; gradual smooth boundary.

Btn3—21 to 27 inches; pale brown (10YR 6/3) and light brownish gray (10YR 6/2) silty clay loam; moderate coarse prismatic structure; firm; few very fine roots; few distinct gray (10YR 5/1) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few medium irregular prominent very dark brown (7.5YR 2.5/2) masses of oxidized iron and manganese with diffuse prominent strong brown (7.5YR 5/6) boundaries; 17 percent exchangeable sodium; slightly acid; gradual smooth boundary.

Btng1—27 to 35 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few very fine roots; few distinct gray (10YR 5/1) clay films on vertical faces of peds and few distinct black (10YR 2/1) and very dark gray (10YR 3/1) organo-clay films lining root channels and pores; few medium faint dark gray (10YR 4/1) iron depletions and few medium distinct dark yellowish brown (10YR 4/4) and light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common coarse irregular prominent black (7.5YR 2.5/1) masses of manganese with diffuse prominent strong brown (7.5YR 4/6) boundaries; 20 percent exchangeable sodium; neutral; clear smooth boundary.

Btng2—35 to 39 inches; light gray (10YR 7/1) silty clay loam; weak coarse prismatic structure; friable; few very fine roots; few distinct gray (10YR 5/1) clay films on vertical faces of peds; few coarse prominent yellowish brown (10YR 5/6) and common coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few medium irregular prominent black (7.5YR 2.5/1) masses of manganese; 25 percent exchangeable sodium; slightly alkaline; abrupt smooth boundary.

Cng1—39 to 44 inches; light gray (10YR 7/1) silt loam; massive; friable; few very fine roots; many coarse prominent yellowish brown (10YR 5/6 and 5/8) and common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common medium and coarse irregular prominent black (7.5YR 2.5/1) masses of manganese; few medium irregular prominent white (10YR 8/1) carbonate nodules; 25 percent exchangeable sodium; slightly effervescent; slightly alkaline; abrupt smooth boundary.

Cng2—44 to 62 inches; light gray (10YR 7/1) silt loam; massive; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels and pores; many coarse prominent yellowish brown (10YR 5/6 and 5/8) and many medium and coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few medium irregular prominent black (7.5YR 2.5/1) masses of manganese; about 25 percent exchangeable sodium; slightly effervescent; moderately alkaline; gradual smooth boundary.

Cng3—62 to 80 inches; light gray (10YR 7/1) silt loam; massive; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many coarse prominent yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine irregular prominent black (7.5YR 2.5/1) masses of manganese; moderately alkaline.

Range in Characteristics

Depth to the base of soil development: Typically 35 to 50 inches; ranges from 30 to 60 inches

Thickness of the loess: More than 45 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5 (5 or 6 dry)
Chroma—2 or 3
Texture—silt loam

E horizon(s):
Hue—10YR or N
Value—5 or 6 (6 to 8 dry)
Chroma—0 to 2
Texture—silt loam

Btn or Btng horizon(s):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—silty clay loam or silt loam

Cg, Cng, or 2Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—5 to 7
Chroma—1 or 2
Texture—silt loam, loam, clay loam, or silty clay loam

882A—Oconee-Darmstadt-Coulterville silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines

Position on the landform: Summits and talfs (fig. 5)

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker, darker surface layer
- Soils that are redder in the upper part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils in swales
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2w; Darmstadt—3w; Coulterville—2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

882B—Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Oconee—summits and shoulders; Darmstadt and Coulterville—summits, shoulders, and backslopes

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker dark surface layer
- Soils that are redder in the upper part of the subsoil
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils on flats
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2e; Darmstadt—3e; Coulterville—2e
Prime farmland category: Prime farmland
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

882B2—Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Oconee—summits and shoulders; Darmstadt and Coulterville—summits, shoulders, and backslopes (fig. 5)

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer

- Soils that have a thicker surface soil
- Soils that are redder in the upper part of the subsoil
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:

- The poorly drained Cowden soils on flats
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2e; Darmstadt—3e; Coulterville—2e
Prime farmland category: Prime farmland
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

912B2—Hoyleton-Darmstadt silt loams, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Summits, shoulders, and backslopes

Map Unit Composition

Hoyleton and similar soils: 60 percent
Darmstadt and similar soils: 34 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a concentration of exchangeable sodium in the subsoil and are redder in the upper part of the subsoil

Dissimilar soils:
- The poorly drained Piasa soils in depressions
- The poorly drained Cisne soils on flats

Properties and Qualities of the Hoyleton Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hoyleton—2e; Darmstadt—3e
Prime farmland category: Prime farmland
Hydric soil status: Hoyleton—not hydric; Darmstadt—not hydric

Douglas Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Douglas soil in map unit 128C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Douglas silt loam, 2 to 5 percent slopes, at an elevation of 535 feet; Bond County, Illinois; approximately 460 feet east and 1,460 feet south of the northwest corner of sec. 29, T. 4 N., R. 4 W.; USGS Pocahontas, Illinois, topographic quadrangle; lat. 38 degrees 46 minutes 4 seconds N. and long. 89 degrees 34 minutes 28 seconds W., UTM Zone 16, 276324 Easting, 4294160 Northing, NAD83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; neutral; abrupt smooth boundary.
A—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; slightly acid; clear smooth boundary.
BA—11 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common medium distinct black (10YR 2/1) masses of manganese throughout; moderately acid; clear smooth boundary.
Bt1—15 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct strong brown (7.5YR 4/6) and dark brown (7.5YR 3/4) clay films on faces of peds; many distinct black (N 2.5/) organic coatings on faces of peds; common medium distinct black (10YR 2/1) masses of manganese throughout; moderately acid; clear smooth boundary.
Bt2—21 to 31 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common distinct strong brown (7.5YR 4/6) and dark brown (7.5YR 3/4) clay films on faces

of peds; few distinct pale brown (10YR 6/3) silt coatings along pores; many medium distinct black (10YR 2/1) masses of manganese throughout; moderately acid; clear smooth boundary.

Bt3—31 to 43 inches; yellowish brown (10YR 5/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct strong brown (7.5YR 4/6) clay films and pale brown (10YR 6/3) silt coatings on faces of peds; many medium distinct black (10YR 2/1) masses of manganese throughout; slightly acid; clear smooth boundary.

2Bt4—43 to 57 inches; brown (7.5YR 4/4) silt loam; weak coarse prismatic structure; friable; many distinct dark brown (7.5YR 4/2) clay films and pale brown (10YR 6/3) silt coatings on faces of peds; many medium prominent black (10YR 2/1) masses of manganese throughout; about 18 percent sand; slightly acid; clear smooth boundary.

2Bt5—57 to 75 inches; brown (7.5YR 4/4) silt loam; weak coarse prismatic structure; friable; common distinct reddish brown (7.5YR 4/3) clay films on faces of peds and common distinct pale brown (10YR 6/3) silt coatings on faces of peds; few distinct dark brown (7.5YR 4/2) clay films and few distinct black (N 2.5/) organo-clay films lining worm channels; about 24 percent sand and 4 percent gravel; slightly acid; gradual smooth boundary.

2Bt6—75 to 80 inches; brown (7.5YR 4/4) silt loam; weak coarse prismatic structure; friable; few distinct reddish brown (7.5YR 4/3) clay films on faces of peds; about 32 percent sand and 4 percent gravel; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 16 inches
Thickness of the loess: 40 to 60 inches
Depth to the base of soil development: 60 to more than 90 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—2 or 3
Texture—silt loam

BA or Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam or silt loam

2Bt horizon(s):
Hue—5YR or 7.5YR
Value—4 to 6
Chroma—3 or 4
Texture—loam, clay loam, or silt loam
Content of rock fragments—0 to 14 percent by volume

128B—Douglas silt loam, 2 to 5 percent slopes

Setting

Landform: Knolls on ground moraines
Position on the landform: Summits, shoulders, and backslopes (fig. 6)

Map Unit Composition

Douglas and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil
- Soils that have a lighter colored surface soil and have more than 15 percent sand at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet

Properties and Qualities of the Douglas Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

128C2—Douglas silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Knolls on ground moraines
Position on the landform: Summits and backslopes (fig. 6)

Map Unit Composition

Douglas and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a thicker dark surface soil
- Soils that have a lighter colored surface soil and have more than 15 percent sand at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet

Properties and Qualities of the Douglas Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

536—Dumps, mine

Setting

- This map unit consists of nearly level to very steep areas where refuse from the washing and separating of coal has accumulated.

Map Unit Composition

Dumps, mine: 97 percent
Dissimilar components: 3 percent

Components of Minor Extent

Dissimilar components:
- The well drained, loamy Orthents along the edge of the refuse areas
- The well drained Hickory, moderately well drained Homen, and somewhat poorly drained Marine soils in undisturbed areas
- Areas of water less than 2 acres in size
- Areas of Urban land

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

835G—Earthen dam

Setting

- This map unit consists of relatively large earthen embankments that are designed to retain water.

Map Unit Composition

Earthen dam: 95 percent
Dissimilar components: 5 percent

Components of Minor Extent

Dissimilar components:
- The somewhat poorly drained Lawson soils in undisturbed areas on flood plains below the dam

- The well drained Hickory soils in undisturbed areas
- The well drained, loamy Orthents adjacent to the dam

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Ebbert Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Ebbert silt loam, 0 to 2 percent slopes, at an elevation of about 630 feet; Christian County, Illinois; approximately 2,000 feet east and 1,885 feet north of the southwest corner of sec. 31, T. 11 N., R. 3 W.; USGS Nokomis, Illinois, topographic quadrangle; lat. 39 degrees 21 minutes 14 seconds N. and long. 89 degrees 28 minutes 2 seconds W., UTM Zone 16, 287406 Easting, 4358958 Northing, NAD83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; few fine and very fine roots throughout; moderately acid; clear smooth boundary.

A—8 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak very fine subangular blocky structure; friable; few fine and very fine roots throughout; slightly acid; abrupt smooth boundary.

Eg—11 to 16 inches; dark gray (10YR 4/1) silt loam; weak medium platy structure parting to weak medium granular; friable; few very fine roots throughout; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds and lining pores; few distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine distinct brown (10YR 5/3) and prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Btg1—16 to 18 inches; gray (10YR 5/1) silty clay loam; weak fine subangular blocky structure; friable; few very fine roots throughout; few distinct very dark gray (10YR 3/1) organic coatings lining pores and few distinct dark gray (10YR 4/1) clay films on faces of peds; few fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; common fine prominent yellowish brown (10YR 5/8) and dark yellowish brown (10YR 4/6) masses of oxidized iron along pores; few fine distinct black (10YR 2/1) masses of manganese throughout; slightly acid; clear smooth boundary.

Btg2—18 to 28 inches; gray (10YR 5/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots throughout; few faint very dark gray (10YR 3/1) organic coatings lining pores and many faint dark gray (10YR 4/1) clay films on faces of peds; few fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; few fine prominent dark yellowish brown (10YR 4/6) and many fine prominent yellowish brown (10YR 5/8) masses of oxidized iron along pores; few fine distinct black (10YR 2/1) masses of manganese throughout; slightly acid; clear smooth boundary.

Btg3—28 to 40 inches; gray (5Y 5/1) silty clay loam; moderate medium subangular blocky structure; firm; few faint very dark gray (5Y 3/1) organic coatings lining pores; few faint dark gray (5Y 4/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/8) masses of oxidized iron along pores; few fine prominent black (10YR 2/1) masses of manganese throughout; neutral; clear smooth boundary.

Btg4—40 to 52 inches; gray (5Y 6/1) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few distinct very dark gray (5Y 3/1) organic coatings lining pores; few faint dark gray (5Y 4/1) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine prominent black (10YR 2/1) masses of manganese throughout; neutral; clear smooth boundary.

Cg—52 to 63 inches; gray (5Y 6/1) silt loam; massive; firm; few faint dark gray (5Y 4/1) clay films lining pores; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine prominent black (10YR 2/1) masses of manganese throughout; neutral; abrupt smooth boundary.

2Bgb—63 to 80 inches; very dark gray (10YR 3/1) silty clay loam; weak medium subangular blocky structure; firm; common fine prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Thickness of the loess: More than 40 inches
Depth to the base of soil development: 40 to more than 60 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam

Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silt loam

2Bgb horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silty clay loam

48A—Ebbert silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions (fig. 8)

Map Unit Composition

Ebbert and similar soils: 100 percent

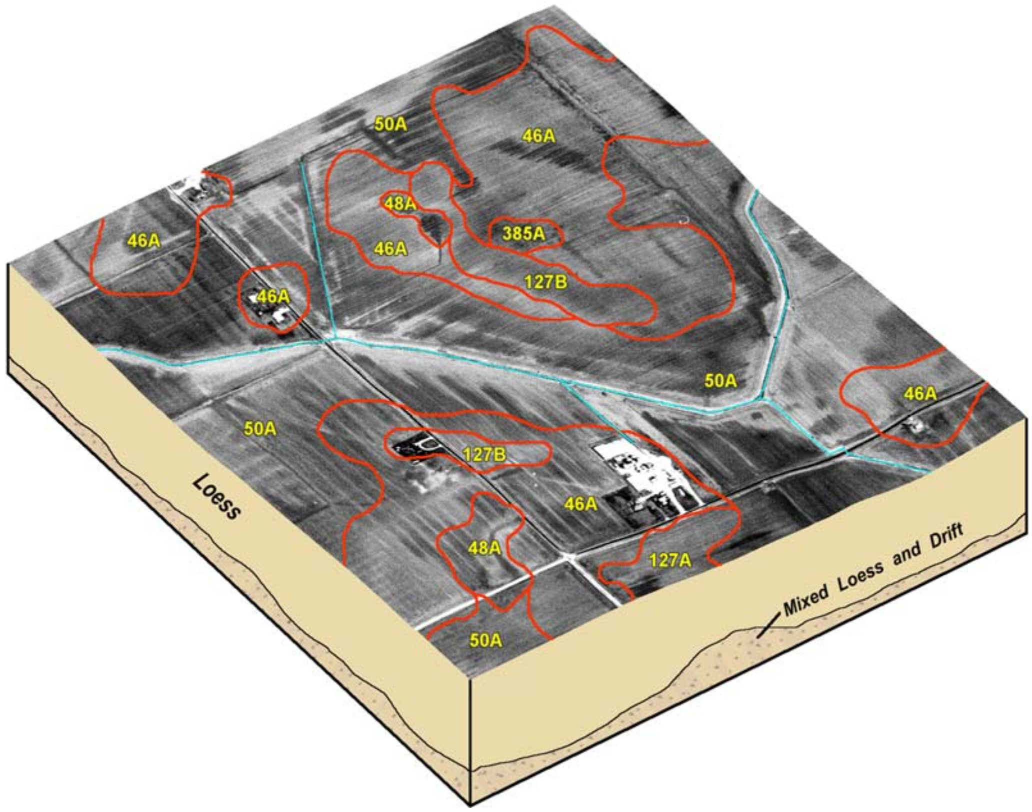


Figure 8.—Typical pattern of nearly level to gently sloping upland prairie soils that formed in loess over mixed loess and drift or entirely in loess.

Soils of Minor Extent

Similar soils:
- Soils that do not have a light-colored subsurface layer
- Soils that do not have a light-colored subsurface layer and that have more clay in the subsoil

Properties and Qualities of the Ebbert Soil

Parent material: Loess
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 1 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Fishhook Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Fishhook silt loam, 5 to 10 percent slopes, eroded, at an elevation of 725 feet; Brown County, Illinois; approximately 1,800 feet south and 360 feet east of the northwest corner of sec. 34, T. 1 N., R. 4 W.; USGS Mt. Sterling, Illinois, topographic quadrangle; lat. 40 degrees 1 minute 38 seconds N. and long. 90 degrees 51 minutes 18 seconds W., UTM Zone 15, 683037 Easting, 4432975 Northing, NAD83:

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate medium subangular blocky structure; friable; few very fine and fine roots throughout; few fine prominent black (2.5Y 2.5/1) masses of manganese throughout; moderately acid; abrupt smooth boundary.

Bt1—6 to 17 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots throughout; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine prominent black (2.5Y 2.5/1) masses of manganese throughout; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

Bt2—17 to 22 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots throughout; few distinct brown (10YR 4/3) clay films lining root channels and pores; common fine prominent black (2.5Y 2.5/1) masses of manganese throughout; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

Bt3—22 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots throughout; common distinct dark yellowish brown (10YR 4/4) and few distinct brown (10YR 5/3) clay films on faces of peds; few fine prominent black (2.5Y 2.5/1) masses of manganese throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine distinct light brownish gray (10YR 6/2) iron depletions along faces of peds; strongly acid; clear wavy boundary.

2Bt4—27 to 35 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine prominent black (2.5Y 2.5/1) masses of manganese throughout; few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few fine pebbles; strongly acid; clear wavy boundary.

2Bt5—35 to 46 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few distinct light gray (10YR 7/2) silt coatings on faces of peds; few fine prominent black (2.5Y 2.5/1) masses of manganese throughout; few fine irregular distinct light brownish gray (10YR 6/2) iron

depletions in the matrix; few very fine and fine pebbles; moderately acid; clear wavy boundary.

2Bt6—46 to 58 inches; yellowish brown (10YR 5/4) clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine and medium spherical prominent black (2.5Y 2.5/1) masses of manganese throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few fine and medium pebbles; slightly acid; clear wavy boundary.

2Bt7—58 to 68 inches; brown (10YR 5/3) clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct black (2.5Y 2.5/1) masses of manganese throughout; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few very fine and fine pebbles; slightly acid; gradual wavy boundary.

2Btg—68 to 82 inches; grayish brown (10YR 5/2) clay; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium distinct black (2.5Y 2.5/1) manganese concretions throughout; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few very fine and fine pebbles; slightly acid.

Range in Characteristics

Thickness of the loess: 20 to 40 inches
Depth to the base of soil development: More than 50 inches

A or Ap horizon(s):
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam

Bt or Btg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam

2Bt or 2Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—2 to 7
Chroma—1 or 2
Texture—clay loam, clay, silty clay, silty clay loam, or loam
Content of rock fragments—1 to 15 percent

2BC, 2BCg, or 2Cg horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—clay loam or loam
Content of rock fragments—1 to 15 percent

6B2—Fishhook silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Fishhook and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have a darker surface layer

Dissimilar soils:
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Fishhook soil

Properties and Qualities of the Fishhook Soil

Parent material: Loess over a paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

6C2—Fishhook silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes (fig. 6)

Map Unit Composition

Fishhook and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have a darker surface layer

Dissimilar soils:
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Fishhook soil

Properties and Qualities of the Fishhook Soil

Parent material: Loess over a paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Fosterburg Series

Taxonomic classification: Fine, smectitic, mesic Vertic Argiaquolls

Typical Pedon

Fosterburg silt loam, in an area of Virden-Fosterburg silt loams, 0 to 2 percent slopes, at an elevation of about 510 feet; St. Clair County, Illinois; approximately 125 feet south and 2,500 feet west of the northeast corner of sec. 36, T. 2 N., R. 6 W.; USGS Trenton, Illinois, topographic quadrangle; lat. 38 degrees 34 minutes 55 seconds N. and long. 89 degrees 42 minutes 53 seconds W., UTM Zone 16, 263536 Easting, 4273891 Northing, NAD83:

Ap—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to strong fine granular; friable; many very fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.

A—8 to 13 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine angular and subangular blocky structure; friable; many very fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.

BA—13 to 20 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; firm; common very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; few fine and medium spherical faint black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.

Btkng1—20 to 29 inches; dark gray (2.5Y 4/1) silty clay loam; moderate fine prismatic structure parting to moderate fine and medium angular blocky; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/4) and strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; common fine irregular prominent white (10YR 8/1) (dry) masses of carbonate and common medium irregular prominent light brownish gray (10YR 6/2) carbonate concretions with clear prominent white (10YR 8/1) (dry) boundaries; slightly effervescent; slightly alkaline; gradual smooth boundary.

Btkng2—29 to 41 inches; dark gray (2.5Y 4/1) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; few medium spherical distinct black (N 2.5/) manganese nodules with sharp boundaries; few fine irregular prominent white (10YR 8/1) (dry) masses of carbonate and few medium irregular distinct light brownish gray (10YR 6/2) carbonate concretions with clear prominent white (10YR 8/1) (dry) boundaries; slightly effervescent; slightly alkaline; gradual smooth boundary.

Btg1—41 to 50 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; few medium spherical prominent black (N 2.5/) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; neutral; gradual smooth boundary.

Btg2—50 to 62 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to weak coarse subangular blocky; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine irregular prominent black (N 2.5/) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; neutral; gradual smooth boundary.

BCtg—62 to 71 inches; olive gray (5Y 5/2) silt loam; weak medium prismatic structure; friable; few very fine roots; few distinct dark grayish brown (2.5Y 4/2) clay films on vertical faces of peds; many medium prominent strong brown (10YR 5/6) masses of oxidized iron in the matrix; few fine and medium irregular prominent black (N 2.5/) manganese nodules with diffuse prominent strong brown (7.5YR 5/6) boundaries; neutral; gradual smooth boundary.

Cg—71 to 80 inches; light olive gray (5Y 6/2) silt loam; massive; friable; few distinct very dark gray (2.5Y 3/1) organo-clay films lining root channels; common fine and medium prominent reddish yellow (7.5YR 6/8) masses of oxidized iron in the matrix; few medium irregular prominent black (N 2.5/) manganese nodules with diffuse prominent strong brown (7.5YR 5/6) boundaries; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to the base of soil development: 40 to 72 inches
Concentration of exchangeable sodium: 5 to 15 percent in the subsoil

Ap and A horizons:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3 (3 or 4 dry)
Chroma—0 or 1
Texture—silt loam

BA, Btkng, Btg, or BCtg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam, silty clay, or silt loam

Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—5 or 6
Chroma—0 to 2
Texture—silt loam

885A—Virden-Fosterburg silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 5, fig. 6)

Map Unit Composition

Virden and similar soils: 50 percent
Fosterburg and similar soils: 40 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the surface soil
- Soils in which the dark surface soil is more than 24 inches thick
- Soils that have a seasonal high water table at a depth of more than 1 foot

Dissimilar soils:
- The poorly drained Piasa soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Virden and Fosterburg soils

Properties and Qualities of the Virden Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Fosterburg Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Virden—2w; Fosterburg—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Virden—hydric; Fosterburg—hydric

Harrison Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Taxadjunct features: The Harrison soils in map units 127B2 and 127C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs.

Typical Pedon

Harrison silt loam, 2 to 5 percent slopes, at an elevation of 665 feet; Christian County, Illinois; approximately 228 feet north and 1,350 feet west of the southeast corner of sec. 24, T. 12 N., R. 2 W.; USGS Clarksdale, Illinois, topographic quadrangle; lat. 39 degrees 27 minutes 59 seconds N. and long. 89 degrees 15 minutes 17 seconds W., UTM Zone 16, 306031 Easting, 4370966 Northing, NAD83:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine and few fine roots; slightly acid; abrupt smooth boundary.
BA—10 to 14 inches; brown (10YR 4/3) silt loam; weak very fine and fine subangular blocky structure; friable; few very fine roots; many distinct very dark grayish

brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—14 to 20 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) and few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese along micropores; few fine distinct black (7.5YR 2.5/1) masses of manganese in the matrix; moderately acid; clear smooth boundary.

Bt2—20 to 27 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine faint brown (7.5YR 4/4), brown (10YR 5/3), and dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese along micropores; few fine distinct black (7.5YR 2.5/1) masses of manganese in the matrix; moderately acid; clear smooth boundary.

Bt3—27 to 35 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine faint dark yellowish brown (10YR 4/4) and few fine faint brown (7.5YR 4/4) masses of oxidized iron and manganese along micropores; few fine distinct black (7.5YR 2.5/1) masses of manganese in the matrix; moderately acid; clear smooth boundary.

Bt4—35 to 45 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse subangular blocky structure; firm; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct grayish brown (10YR 5/2) iron depletions along micropores; common fine faint dark yellowish brown (10YR 4/4) and few fine faint brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine prominent black (7.5YR 2.5/1) masses of manganese in the matrix; moderately acid; clear smooth boundary.

2Btg—45 to 65 inches; grayish brown (10YR 5/2) silty clay loam; weak medium and coarse subangular blocky structure; firm; few distinct gray (10YR 5/1) clay films on faces of peds; few fine faint brown (10YR 5/3), common fine and medium distinct dark yellowish brown (10YR 4/4), and few fine distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine distinct black (7.5YR 2.5/1) masses of manganese in the matrix; about 15 percent sand; about 1 percent gravel; slightly acid; abrupt smooth boundary.

3Btgb—65 to 80 inches; grayish brown (2.5Y 5/2) clay loam; moderate coarse subangular blocky structure; firm; common distinct olive gray (5Y 4/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; few fine prominent black (7.5YR 2.5/1) masses of manganese in the matrix; about 5 percent gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 8 to 19 inches
Thickness of the loess: 40 to 60 inches
Depth to the base of soil development: More than 45 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silt loam

AB or BA horizon(s) (where present):
Hue—10YR
Value—3 or 4

Chroma—2 to 4
Texture—silt loam or silty clay loam

Bt horizon(s):
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam

2Btg or 2BCg horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam, silt loam, or clay loam
Content of rock fragments—0 to 5 percent by volume

3Btgb horizon(s) (where present):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 3
Texture—clay loam, clay, or silty clay loam
Content of rock fragments—0 to 15 percent by volume

127A—Harrison silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and knolls
Position on the landform: Summits (fig. 8)

Map Unit Composition

Harrison and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface soil
- Soils that have a lighter colored surface soil
- Soils that have less sand in the lower part of the subsoil
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a lighter colored surface soil and have more than 15 percent sand at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of less than 2 feet

Properties and Qualities of the Harrison Soil

Parent material: Loess over mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

127B—Harrison silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and knolls
Position on the landform: Summits and shoulders on ground moraines; backslopes on knolls (fig. 6, fig. 8)

Map Unit Composition

Harrison and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner dark surface soil
- Soils that have a lighter colored surface soil
- Soils that have less sand in the lower part of the subsoil
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a lighter colored surface soil and have more than 15 percent sand at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of less than 2 feet

Properties and Qualities of the Harrison Soil

Parent material: Loess over mixed loess and drift underlain in places by a paleosol that formed in till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

127B2—Harrison silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines and knolls
Position on the landform: Summits and shoulders on ground moraines; backslopes on knolls

Map Unit Composition

Harrison and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a thicker dark surface soil
- Soils that have a lighter colored surface soil
- Soils that have less sand in the lower part of the subsoil
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a lighter colored surface soil and have more than 15 percent sand at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of less than 2 feet

Properties and Qualities of the Harrison Soil

Parent material: Loess over mixed loess and drift underlain in places by a paleosol that formed in till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

127C2—Harrison silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and knolls
Position on the landform: Summits and shoulders on ground moraines; backslopes on knolls (fig. 6)

Map Unit Composition

Harrison and similar soils: 96 percent
Dissimilar soils: 4 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a thicker dark surface soil
- Soils that have a lighter colored surface soil
- Soils that have less sand in the lower part of the subsoil
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a lighter colored surface soil and have more than 15 percent sand at a depth of less than 40 inches

Dissimilar soils:
- The somewhat poorly drained Herrick soils in the less sloping areas

Properties and Qualities of the Harrison Soil

Parent material: Loess over mixed loess and drift underlain in places by a paleosol that formed in till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Herrick Series

Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Herrick silt loam, 0 to 2 percent slopes, at an elevation of 635 feet; Christian County, Illinois; approximately 1,260 feet south and 60 feet west of the northeast corner of sec. 1, T. 11 N., R. 3 W.; USGS Clarksdale, Illinois, topographic quadrangle; lat. 39 degrees 26 minutes 0 seconds N. and long. 89 degrees 21 minutes 57 seconds W., UTM Zone 16, 296395 Easting, 4367534 Northing, NAD83:

Ap1—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; very friable; common fine and very fine roots; common worm casts and channels; common faint very dark gray (10YR 3/1) organic coatings lining channels; distinct light brownish gray

(10YR 6/2) (dry) silt coatings and common fine faint black (2.5Y 2.5/1) manganese concretions on the surface of the soil; slightly acid; clear wavy boundary.

Ap2—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak coarse subangular blocky structure parting to weak fine granular; very friable; few fine and medium roots; common worm casts and channels; common distinct very dark gray (10YR 3/1) organic coatings lining channels; few fine faint black (2.5Y 2.5/1) masses of manganese; slightly acid; abrupt smooth boundary.

AE—11 to 15 inches; very dark grayish brown (10YR 3/2) silt loam, gray (10YR 5/1) dry; weak thick platy structure parting to weak medium granular; friable; few fine roots; few medium worm channels; many distinct grayish brown (10YR 5/2) clay depletions on the surface of peds, light gray (10YR 7/1) dry; few fine faint black (2.5Y 2.5/1) manganese concretions and common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron; moderately acid; clear smooth boundary.

Btg—15 to 19 inches; dark grayish brown (10YR 4/2) silty clay loam; weak very fine and fine prismatic structure parting to moderate fine and medium subangular blocky; friable; few fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on horizontal and vertical faces of peds; many distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron throughout; few fine distinct black (2.5Y 2.5/1) manganese concretions and stains; moderately acid; clear smooth boundary.

Bt1—19 to 25 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular and angular blocky; firm; few fine and very fine roots dominantly between peds; many distinct very dark grayish brown (10YR 3/2) and common prominent very dark gray (10YR 3/1) organo-clay films and distinct dark grayish brown (10YR 4/2) clay films on vertical and horizontal faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron, common fine faint brown (7.5YR 4/4) masses of oxidized iron and manganese, and few fine faint grayish brown (10YR 5/2) iron depletions throughout; few fine distinct black (2.5Y 2.5/1) manganese concretions; moderately acid; gradual smooth boundary.

Bt2—25 to 35 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium and coarse prismatic structure parting to weak coarse subangular blocky; very firm; few fine and very fine roots dominantly in the cracks between peds; common distinct very dark gray (10YR 3/1) organo-clay films and distinct dark grayish brown (10YR 4/2) clay films on vertical and horizontal faces of peds; common fine distinct yellowish brown (10YR 5/8) masses of oxidized iron, common medium distinct brown (7.5YR 4/4) masses of oxidized iron and manganese, and few fine prominent grayish brown (10YR 5/2) iron depletions throughout; few fine prominent black (2.5Y 2.5/1) manganese concretions; moderately acid; gradual smooth boundary.

Bt3—35 to 47 inches; yellowish brown (10YR 5/6) silty clay loam; moderate coarse prismatic structure parting to weak coarse subangular blocky; firm; few very fine roots; few very fine pores; common distinct very dark grayish brown (10YR 3/2) organo-clay films on vertical faces of peds and lining pores and common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common fine distinct yellowish brown (10YR 5/8) masses of oxidized iron and common fine prominent light brownish gray (2.5Y 5/2) iron depletions throughout; few fine prominent black (2.5Y 2.5/1) manganese concretions; slightly acid; gradual wavy boundary.

Bt4—47 to 58 inches; yellowish brown (10YR 5/4) silty clay loam; weak very coarse prismatic structure; firm; few very fine roots; many very fine pores; few distinct

very dark grayish brown (10YR 3/2) organo-clay films and common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds and lining channels; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron throughout; common medium distinct light brownish gray (2.5Y 6/2) iron depletions along pores; few fine prominent black (2.5Y 2.5/1) iron and manganese concretions; slightly acid; gradual smooth boundary.

C1—58 to 70 inches; variegated yellowish brown (10YR 5/6) and light brownish gray (2.5Y 6/2) silt loam; massive; friable; few very fine and fine pores; very dark grayish brown (10YR 3/2) organo-clay films lining pores; few fine prominent black (2.5Y 2.5/1) masses and stains of manganese throughout; neutral; clear smooth boundary.

2C2—70 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common very fine and fine pores; dark grayish brown (10YR 4/2) clay films lining pores; common medium distinct yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron throughout; common fine distinct light brownish gray (2.5Y 6/2) iron depletions along pores; few fine prominent black (2.5Y 2.5/1) masses and stains of manganese throughout; an increase in the component of coarse silt and very fine sand; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 19 inches
Depth to the base of soil development: 45 to 60 inches
Thickness of the loess: More than 55 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

E or AE horizon(s) (where present):
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—silt loam

Btg or Bt horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam, silty clay, or silt loam

C or Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silty clay loam

2Cg or 2C horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam, clay loam, loam, or silty clay loam

46A—Herrick silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs and summits (fig. 8)

Map Unit Composition

Herrick and similar soils: 92 percent
Dissimilar soils: 8 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that do not have a lighter colored subsurface layer

Dissimilar soils:
- The poorly drained Virden soils in depressions

Properties and Qualities of the Herrick Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

790A—Herrick-Biddle silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs and summits (fig. 5)

Map Unit Composition

Herrick and similar soils: 60 percent
Biddle and similar soils: 30 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil

- Soils that have a thinner dark surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:

- The poorly drained Piasa soils, which have a high concentration of exchangeable sodium in the subsoil; in depressions

Properties and Qualities of the Herrick Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Biddle Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Herrick—1; Biddle—1
Prime farmland category: Prime farmland
Hydric soil status: Herrick—not hydric; Biddle—not hydric

894A—Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions
Position on the landform: Herrick and Biddle—talfs and summits; Piasa—talfs, toeslopes, and depressions (fig. 6)

Map Unit Composition

Herrick and similar soils: 40 percent
Biddle and similar soils: 35 percent
Piasa and similar soils: 25 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have a lighter colored surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet

Properties and Qualities of the Herrick Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Biddle Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Piasa Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 9 to 17 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High

Perched seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Herrick—1; Biddle—1; Piasa—3w
Prime farmland category: Prime farmland
Hydric soil status: Herrick—not hydric; Biddle—not hydric; Piasa—hydric

Hickory Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Hickory silt loam, 18 to 35 percent slopes, at an elevation of about 590 feet; Bond County, Illinois; approximately 792 feet west and 38 feet north of the southeast corner of sec. 28, T. 7 N., R. 3 W.; USGS Coffeen, Illinois, topographic quadrangle; lat. 39 degrees 0 minutes 48 seconds N. and long. 89 degrees 25 minutes 11 seconds W., UTM Zone 16, 290491 Easting, 4321047 Northing, NAD83:

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; many very fine and few fine and medium roots; few fine and medium tubular pores; about 20 percent sand; very strongly acid; clear smooth boundary.

E—4 to 12 inches; light yellowish brown (10YR 6/4) silt loam, very pale brown (10YR 7/4) dry; weak very thick platy structure parting to weak fine granular; friable; few very fine to medium roots; few fine and medium tubular pores; pockets of dark grayish brown (10YR 4/2) surface soil filling large root channels; 20 percent sand and 1 percent gravel; strongly acid; clear smooth boundary.

Bt1—12 to 17 inches; yellowish brown (10YR 5/6) clay loam; moderate fine subangular blocky structure; firm; common very fine and few fine and medium roots; common distinct brown (10YR 4/3) clay films on faces of peds; 1 percent gravel; very strongly acid; clear smooth boundary.

Bt2—17 to 26 inches; dark yellowish brown (10YR 4/6) clay loam; moderate medium subangular blocky structure; firm; few very fine and medium roots; common distinct brown (10YR 5/3) clay films on faces of peds; about 2 percent fine and medium gravel; very strongly acid; gradual smooth boundary.

Bt3—26 to 35 inches; yellowish brown (10YR 5/4) clay loam; moderate coarse and medium angular blocky structure; firm; few very fine and medium roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium gravel; many medium and coarse prominent brownish yellow (10YR 6/8) and strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine spherical distinct black (10YR 2/1) manganese nodules with sharp boundaries throughout; about 3 percent fine and medium gravel; very strongly acid; gradual smooth boundary.

Bt4—35 to 46 inches; yellowish brown (10YR 5/4) clay loam; weak medium and coarse prismatic structure parting to weak coarse angular blocky; firm; few very fine and medium roots; common distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium and coarse gravel; many coarse distinct strong brown (7.5YR

5/6) masses of oxidized iron in the matrix; few fine spherical distinct black (10YR 2/1) manganese nodules with sharp boundaries throughout; about 4 percent fine to coarse gravel; strongly acid; diffuse smooth boundary.

BCt—46 to 58 inches; light yellowish brown (10YR 6/4) loam; weak medium and coarse subangular blocky structure; friable; few very fine and fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium gravel; common medium distinct dark yellowish brown (10YR 4/6) and few fine distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine spherical prominent black (10YR 2/1) manganese nodules with sharp boundaries throughout; 5 percent fine and medium gravel; strongly acid; gradual smooth boundary.

CB—58 to 65 inches; yellowish brown (10YR 5/6) loam; massive; friable; few very fine and fine roots; few distinct brown (10YR 4/3) clay films lining root channels and coating medium gravel; few fine distinct brown (10YR 5/3) iron depletions in the matrix; 5 percent fine and medium gravel; moderately acid; clear smooth boundary.

C—65 to 80 inches; yellowish brown (10YR 5/4), strong brown (7.5YR 5/6), and light gray (10YR 7/1) loam; massive; friable; few very fine roots; 3 percent fine and medium gravel; slightly acid.

Range in Characteristics

Thickness of the loess: Less than 20 inches
Depth to carbonates (where present): More than 40 inches
Depth to the base of soil development: More than 40 inches

Ap or A horizon(s):
Hue—7.5YR or 10YR
Value—2 to 5
Chroma—2 to 6
Texture—silt loam, loam, or clay loam
Content of rock fragments—0 to 5 percent by volume

E horizon(s):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam or loam
Content of rock fragments—0 to 5 percent by volume

Bt horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, silty clay loam, loam, or gravelly clay loam
Content of rock fragments—0 to 20 percent by volume

BCt or BC horizon(s) (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, sandy loam, or gravelly clay loam
Content of rock fragments—0 to 20 percent by volume

CB or C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—5 to 7

Chroma—1 to 8
Texture—loam, clay loam, or sandy loam or the gravelly analogs of these textures
Content of rock fragments—2 to 20 percent by volume

8D—Hickory silt loam, 10 to 18 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes (fig. 4, fig. 5, fig. 7)

Map Unit Composition

Hickory and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface soil
- Soils that have slopes of less than 10 percent
- Soils that have a thicker, darker surface layer
- Soils that have more sand in the surface soil
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar soils:
- The moderately well drained Ava and Homen soils in the higher positions
- The somewhat poorly drained Blair and Atlas soils on backslopes; in positions above those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

8D2—Hickory loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes (fig. 4, fig. 7)

Map Unit Composition

Hickory and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 10 percent
- Soils that have a thicker, darker surface layer
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar soils:
- The moderately well drained Ava and Homen soils in the higher positions
- The somewhat poorly drained Blair and Atlas soils on backslopes; in positions above those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

8D3—Hickory clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes (fig. 4)

Map Unit Composition

Hickory and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have slopes of less than 10 percent

- Soils that have a thicker, darker surface layer
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar soils:

- The moderately well drained Ava and Homen soils in the higher positions
- The somewhat poorly drained Blair and Atlas soils on backslopes; in positions above those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 1.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

8F—Hickory silt loam, 18 to 35 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes (fig. 4, fig. 7)

Map Unit Composition

Hickory and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:

- Soils that have more clay in the surface soil
- Soils that have slopes of more than 35 percent
- Soils that have more sand in the surface soil
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar soils:

- The moderately well drained Ava and Homen soils in the higher positions
- The somewhat poorly drained Blair and Atlas soils on backslopes; in positions above those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

8G—Hickory silt loam, 35 to 60 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Backslopes (fig. 4)

Map Unit Composition

Hickory and similar soils: 91 percent
Dissimilar soils: 9 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface soil
- Soils that have slopes of less than 35 percent
- Soils that have more sand in the surface soil
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar soils:
- The moderately well drained Ava and Homen soils in the higher positions
- The somewhat poorly drained Blair and Atlas soils on backslopes; in positions above those of the Hickory soil

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

998F—Hickory and Negley loams, 18 to 35 percent slopes

Setting

Landform: Ground moraines and crevasse fillings on ground moraines
Position on the landform: Hickory—backslopes on ground moraines; Negley—backslopes on crevasse fillings on ground moraines

Map Unit Composition

Hickory and similar soils: 50 percent
Negley and similar soils: 40 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils in which the surface soil contains less sand
- Soils that have more rock fragments in the surface soil and subsoil

Dissimilar soils:
- The well drained Parke and Pike soils in the higher, less sloping positions

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Negley Soil

Parent material: Loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface

Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—6e; Negley—6e
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Negley—not hydric

Holton Series

Taxonomic classification: Coarse-loamy, mixed, active, nonacid, mesic Aeric Endoaquepts

Typical Pedon

Holton silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 526 feet; Effingham County, Illinois; approximately 1,400 feet south and 10 feet west of the northeast corner of sec. 17, T. 7 N., R. 5 E.; USGS Altamont East SE, Illinois, topographic quadrangle; lat. 39 degrees 3 minutes 27.7 seconds N. and long. 88 degrees 39 minutes 10.2 seconds W., UTM Zone 16, 356989 Easting, 4324478 Northing, NAD83:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; few medium distinct brown (7.5YR 4/4) masses of oxidized iron and manganese; neutral; abrupt smooth boundary.
Bw1—10 to 13 inches; dark grayish brown (10YR 4/2) sandy loam; weak medium granular structure; friable; neutral; clear smooth boundary.
Bw2—13 to 16 inches; brown (10YR 5/3) loamy sand; weak fine granular structure; very friable; neutral; clear smooth boundary.
Bg1—16 to 25 inches; dark grayish brown (10YR 4/2) loam; moderate fine granular structure; friable; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron and few fine faint brown (10YR 4/3) masses of oxidized iron and manganese; neutral; clear smooth boundary.
Bg2—25 to 36 inches; grayish brown (10YR 5/2) silt loam; moderate medium granular structure; friable; few fine distinct dark brown (7.5YR 4/4) masses of oxidized iron and manganese; neutral; gradual smooth boundary.
Cg—36 to 60 inches; dark gray (10YR 4/1) loam; massive; firm; common medium prominent dark brown (7.5YR 4/4) masses of oxidized iron and manganese and few fine faint grayish brown (10YR 5/2) iron depletions; neutral.

Range in Characteristics

Depth to the base of soil development: 22 to 48 inches

Ap or A horizon(s):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam

Bw or Bg horizon(s):
Hue—10YR
Value—4 to 6

Chroma—1 to 6
Texture—silt loam, loam, or sandy loam with strata of loamy sand
Content of rock fragments—0 to 10 percent by volume

C or Cg horizon(s):
Hue—10YR
Value—4 to 6
Chroma—1 to 4
Texture—sandy loam or loam; strata of loamy sand in some pedons
Content of rock fragments—0 to 14 percent by volume

3225A—Holton silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains
Position on the landform: Swales

Map Unit Composition

Holton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less sand throughout
- Soils that have a dark buried soil
- Soils that have a darker surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The poorly drained Sawmill soils in swales
- Soils that are subject to occasional flooding

Properties and Qualities of the Holton Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Homen Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fragic Oxyaquic Hapludalfs

Typical Pedon

Homen silt loam, 2 to 5 percent slopes, at an elevation of about 560 feet; Randolph County, Illinois; approximately 1,919 feet north and 2,583 feet west of the southeast corner of sec. 1, T. 5 S., R. 5 W.; USGS Percy, Illinois, topographic quadrangle; lat. 38 degrees 7 minutes 21 seconds N. and long. 89 degrees 36 minutes 6 seconds W., UTM Zone 16, 271952 Easting, 4222620 Northing, NAD83:

Ap1—0 to 4 inches; brown (10YR 4/3) (crushed) silt loam; moderate medium granular structure; friable; many fine and very fine roots throughout; few fine distinct spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 15 percent clay; slightly acid; abrupt smooth boundary.

Ap2—4 to 9 inches; dark yellowish brown (10YR 4/4) (crushed) silt loam; moderate medium granular structure; friable; many fine and very fine roots throughout; few fine distinct spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 15 percent clay; slightly acid; abrupt smooth boundary.

E—9 to 14 inches; yellowish brown (10YR 5/6) (broken face) silt loam; moderate medium platy structure; friable; common fine roots throughout; few fine prominent spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 17 percent clay; moderately acid; clear smooth boundary.

Bt1—14 to 20 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common fine roots between peds; few faint yellowish brown (10YR 5/4) clay films on faces of peds; few fine prominent irregular black (10YR 2/1) manganese coatings on faces of peds; few fine prominent spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 28 percent clay; strongly acid; clear smooth boundary.

Bt2—20 to 30 inches; 10 percent brown (10YR 5/3) and 60 percent yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common fine roots between peds; many distinct light gray (10YR 7/1) (dry) silt coatings and common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; common fine faint irregular grayish brown (10YR 5/2) iron depletions with clear boundaries throughout; common medium faint irregular brown (7.5YR 4/4) and common fine prominent irregular yellowish brown (10YR 5/8) masses of oxidized iron with clear boundaries throughout; few fine distinct irregular black (10YR 2/1) manganese coatings on faces of peds; few fine distinct spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 34 percent clay; very strongly acid; clear smooth boundary.

Bt3—30 to 42 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common fine roots between peds; common faint brown (10YR 4/3) clay films on faces of peds; common fine faint irregular grayish brown (10YR 5/2) iron depletions with clear boundaries throughout; common medium prominent irregular strong brown (7.5YR 4/6), common medium distinct irregular yellowish brown (10YR 5/6), and common medium faint irregular yellowish brown (10YR 5/4) masses of oxidized iron with clear boundaries throughout; few fine distinct irregular black (10YR 2/1) manganese coatings on faces of peds; few fine distinct spherical weakly

cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 30 percent clay; very strongly acid; abrupt smooth boundary.

Btx1—42 to 59 inches; brown (10YR 5/3) silt loam; weak coarse prismatic structure; firm; common fine roots in cracks; few prominent light gray (10YR 7/1) (dry) silt coatings and common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium distinct irregular yellowish brown (10YR 5/6) masses of oxidized iron with clear boundaries throughout; common fine distinct irregular black (10YR 2/1) manganese coatings on faces of peds; few fine distinct spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; brittle in 60 percent of the matrix; about 25 percent clay; strongly acid; abrupt smooth boundary.

2Btx2—59 to 77 inches; yellowish brown (10YR 5/6) silt loam; weak medium prismatic structure; firm; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent irregular black (10YR 2/1) manganese coatings on faces of peds; few fine prominent spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; brittle in 60 percent of the matrix; about 22 percent clay; moderately acid; clear smooth boundary.

2Bt1—77 to 88 inches; yellowish brown (10YR 5/6) silt loam; weak medium prismatic structure; firm; few distinct brown (7.5YR 4/4) clay films on faces of peds; common fine prominent irregular black (10YR 2/1) manganese coatings on faces of peds; few fine prominent spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 25 percent clay; slightly acid; clear smooth boundary.

2Bt2—88 to 92 inches; yellowish brown (10YR 5/6) silty clay loam; strong medium prismatic structure; firm; few distinct brown (10YR 4/3) clay films on faces of peds; common fine prominent irregular black (10YR 2/1) manganese coatings on faces of peds; few fine prominent spherical weakly cemented black (10YR 2/1) iron-manganese concretions with sharp boundaries throughout; about 30 percent clay; slightly acid.

Range in Characteristics

Depth to fragic properties: 40 to 60 inches
Thickness of the loess: 50 to 80 inches
Depth to the base of soil development: More than 80 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5 (5 to 7 dry)
Chroma—1 to 4
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 or 5 (6 or 7 dry)
Chroma—2 to 6
Texture—silt loam

Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam

Bt/E horizon (where present):
Hue—7.5YR or 10YR

Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam

Btx and 2Btx horizons:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam

B´t horizon (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam

2Bt and 3Btb horizons (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam, silty clay loam, clay loam, or loam

582B—Homen silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders (fig. 5, fig. 7)

Map Unit Composition

Homen and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thinner surface soil
- Soils that have a darker surface soil
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have more clay in the upper part of the subsoil and have a seasonal high water table at a depth of less than 2 feet
- Soils that have more than 15 percent sand at a depth of less than 40 inches

Dissimilar soils:
- The well drained Hickory soils on backslopes

Properties and Qualities of the Homen Soil

Parent material: Loess over mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 11 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface

Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

582C—Homen silt loam, 5 to 10 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Shoulders

Map Unit Composition

Homen and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have more than 15 percent sand at a depth of less than 40 inches

Dissimilar soils:
- The well drained Hickory soils on backslopes

Properties and Qualities of the Homen Soil

Parent material: Loess over mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 11 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

582C2—Homen silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders (fig. 7)

Map Unit Composition

Homen and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have more than 15 percent sand at a depth of less than 40 inches

Dissimilar soils:
- The well drained Hickory soils on backslopes

Properties and Qualities of the Homen Soil

Parent material: Loess over mixed loess and drift
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Hoyleton Series

Taxonomic classification: Fine, smectitic, mesic Aquollic Hapludalfs

Typical Pedon

Hoyleton silt loam, 0 to 2 percent slopes, at an elevation of 655 feet; Shelby County, Illinois; approximately 295 feet south and 2,160 feet east of the northwest corner of sec. 15, T. 9 N., R. 5 E.; USGS Shumway, Illinois, topographic quadrangle; lat. 39 degrees 13 minutes 46.1 seconds N. and long. 88 degrees 37 minutes 48.4 seconds W., UTM Zone 16, 359299 Easting, 4343508 Northing, NAD83:

Ap—0 to 8 inches; dark brown (10YR 3/3) and very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable;

many very fine roots; few fine spherical faint very dark brown (10YR 2/2) manganese concretions throughout; moderately acid; abrupt smooth boundary.

E—8 to 11 inches; brown (10YR 5/3) silt loam; weak thin platy structure; friable; common very fine and few fine roots; common distinct dark grayish brown (10YR 4/2) coatings lining root channels and worm casts; few fine spherical distinct very dark brown (10YR 2/2) concretions and stains of manganese throughout; strongly acid; clear smooth boundary.

BEt—11 to 14 inches; brown (10YR 5/3) silty clay loam; weak fine subangular blocky structure; friable; few very fine roots; few distinct grayish brown (10YR 5/2) clay films and few distinct very pale brown (10YR 7/3) clay depletions on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine spherical distinct very dark brown (10YR 2/2) manganese concretions throughout; strongly acid; clear smooth boundary.

Bt1—14 to 20 inches; brown (10YR 5/3) silty clay loam; strong fine subangular blocky structure; firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films and many prominent very pale brown (10YR 8/2) silt coatings on faces of peds; common medium prominent yellowish red (5YR 5/6 and 5/8) masses of oxidized iron in the matrix; common fine spherical distinct very dark brown (10YR 2/2) manganese concretions throughout; strongly acid; clear smooth boundary.

Bt2—20 to 33 inches; brown (10YR 5/3) silty clay; moderate medium subangular blocky structure; firm; few fine and very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct dark gray (10YR 4/1) clay films lining root channels and pores; common fine prominent yellowish red (5YR 5/8) masses of oxidized iron and common medium faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine spherical distinct very dark brown (10YR 2/2) manganese concretions throughout; strongly acid; gradual smooth boundary.

2Bt3—33 to 39 inches; pale brown (10YR 6/3) silty clay loam; weak coarse subangular blocky structure; firm; few fine and very fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels and pores; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron and common medium faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine spherical prominent very dark brown (10YR 2/2) manganese concretions throughout; about 10 percent fine sand; strongly acid; gradual smooth boundary.

2BCt—39 to 54 inches; pale brown (10YR 6/3) silt loam; massive; friable; few very fine roots; few distinct dark gray (10YR 4/1) clay films lining root channels and pores; few fine prominent yellowish brown (10YR 5/8) and few fine faint yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; common fine spherical prominent very dark brown (10YR 2/2) manganese concretions throughout; about 15 percent fine sand; slightly acid; gradual smooth boundary.

2Cg—54 to 80 inches; brown (7.5YR 5/2) silt loam; massive; friable; many medium prominent strong brown (7.5YR 4/6) and many medium distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine spherical prominent very dark brown (10YR 2/2) iron-manganese concretions throughout; about 25 percent fine sand; slightly acid.

Range in Characteristics

Thickness of the loess: 30 to 55 inches
Depth to the base of soil development: More than 36 inches
Depth to carbonates: More than 60 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silt loam

BEt or Bt horizon(s):
Hue—5YR, 7.5YR, or 10YR
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay

2Bt, 2BC, or 2BCt horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 to 4
Texture—silt loam, loam, silty clay loam, or clay loam
Content of rock fragments—0 to 5 percent by volume

2C or 2Cg horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6
Chroma—1 to 4
Texture—silty clay loam, clay loam, or silt loam
Content of rock fragments—0 to 5 percent by volume

3A—Hoyleton silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs and summits (fig. 4)

Map Unit Composition

Hoyleton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Hoyleton soil
- The poorly drained Virden and Cowden soils in swales
- The poorly drained Cisne soils on flats
- The poorly drained Huey soils in depressions

Properties and Qualities of the Hoyleton Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

3B—Hoyleton silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders (fig. 4)

Map Unit Composition

Hoyleton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less clay in the subsoil
- Soils that have a lighter colored surface layer
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Hoyleton soil
- The poorly drained Cisne and Cowden soils on flats
- The poorly drained Huey soils in depressions

Properties and Qualities of the Hoyleton Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High

Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

3B2—Hoyleton silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Hoyleton and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less clay in the subsoil
- Soils that have a lighter colored surface layer
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Hoyleton soil
- The poorly drained Cisne and Cowden soils on flats
- The poorly drained Huey soils in depressions

Properties and Qualities of the Hoyleton Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

912B2—Hoyleton-Darmstadt silt loams, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Summits, shoulders, and backslopes

Map Unit Composition

Hoyleton and similar soils: 60 percent
Darmstadt and similar soils: 34 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a concentration of exchangeable sodium in the subsoil and are redder in the upper part of the subsoil

Dissimilar soils:
- The poorly drained Piasa soils in depressions
- The poorly drained Cisne soils on flats

Properties and Qualities of the Hoyleton Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess over mixed loess and drift
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent

Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hoyleton—2e; Darmstadt—3e
Prime farmland category: Prime farmland
Hydric soil status: Hoyleton—not hydric; Darmstadt—not hydric

Huey Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Natraqualfs

Typical Pedon

Huey silt loam, 0 to 2 percent slopes, at an elevation of 635 feet; Effingham County, Illinois; approximately 1,040 feet east and 1,290 feet south of the northwest corner of sec. 12, T. 8 N., R. 4 E.; USGS Shumway, Illinois, topographic quadrangle; lat. 39 degrees 9 minutes 33.8 seconds N. and long. 88 degrees 42 minutes 23.4 seconds W., UTM Zone 16, 352558 Easting, 4335850 Northing, NAD83:

Ap—0 to 8 inches; dark grayish brown (2.5Y 4/2) silt loam, light brownish gray (2.5Y 6/2) dry; moderate fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.

Eg—8 to 10 inches; grayish brown (2.5Y 5/2) silt loam; weak thin platy structure parting to weak fine granular; friable; common fine roots; moderately acid; clear smooth boundary.

Btng1—10 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds in the upper 3 inches; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron; few fine prominent black (N 2.5/) masses of manganese; neutral; clear smooth boundary.

Btng2—15 to 18 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse subangular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron; few fine prominent black (N 2.5/) masses of manganese; moderately alkaline; clear smooth boundary.

Btng3—18 to 23 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse subangular blocky structure; very firm; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; few fine prominent black (N 2.5/) masses of manganese; few prominent white (N 8/) masses of calcium carbonate; moderately alkaline; gradual smooth boundary.

Btng4—23 to 34 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse subangular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few medium and coarse prominent yellowish

brown (10YR 5/6) masses of oxidized iron; few fine prominent black (N 2.5/) masses of manganese; moderately alkaline; gradual smooth boundary.

Btng5—34 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse angular blocky structure; firm; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common coarse prominent dark yellowish brown (10YR 4/6) masses of oxidized iron; few fine and coarse prominent black (N 2.5/) masses of manganese; moderately alkaline; gradual smooth boundary.

2BCng—49 to 57 inches; light brownish gray (10YR 6/2) silt loam; weak coarse subangular blocky structure; firm; few faint grayish brown (10YR 5/2) clay films on faces of peds and lining crayfish holes and pores; common coarse prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) masses of oxidized iron; few fine prominent black (N 2.5/) masses of manganese; moderately alkaline; gradual smooth boundary.

2Cng—57 to 65 inches; light brownish gray (10YR 6/2) loam; massive; friable; common coarse prominent dark yellowish brown (10YR 4/6) masses of oxidized iron; moderately alkaline.

Range in Characteristics

Thickness of the loess: More than 45 inches
Depth to the base of soil development: More than 45 inches
Concentration of exchangeable sodium: More than 15 percent within 16 inches of the surface and within 6 inches of the top of the argillic horizon

Ap or A horizon(s):
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—2
Texture—silt or silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 3
Texture—silty clay loam or silt loam

Btng horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 3
Texture—silty clay loam, silty clay, or silt loam

2BCng, 2Cng, 2BCg, or 2Cg horizon(s) (where present):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 3
Texture—silty clay loam, silt loam, or loam
Content of rock fragments—2 to 15 percent by volume

991A—Cisne-Huey silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs

Map Unit Composition

Cisne and similar soils: 55 percent
Huey and similar soils: 45 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have a lighter colored surface layer and are less gray in the upper part of the subsoil
- Soils that have a dark surface soil more than 24 inches thick

Properties and Qualities of the Cisne Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 16 to 21 inches to abrupt textural change
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Huey Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow to moderately slow
Depth to restrictive feature: 8 to 16 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Cisne—3w; Huey—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Cisne—hydric; Huey—hydric

Keller Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Taxadjunct features: The Keller soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Aquollic Hapludalfs.

Typical Pedon

Keller silt loam, 5 to 10 percent slopes, at an elevation of 736 feet; Brown County, Illinois; approximately 2,460 feet north and 980 feet east of the southwest corner of sec. 9, T. 1 S., R. 4 W.; USGS Mt. Sterling, Illinois, topographic quadrangle; lat. 39 degrees 59 minutes 41 seconds N. and long. 90 degrees 52 minutes 13 seconds W., UTM Zone 15, 681802 Easting, 4429349 Northing, NAD83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common fine roots throughout; slightly acid; clear smooth boundary.

A—8 to 15 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common fine roots throughout; moderately acid; clear smooth boundary.

BA—15 to 19 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common fine roots throughout; common fine pores; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine faint brown (10YR 5/3) masses of oxidized iron and manganese throughout; slightly acid; clear smooth boundary.

Btg1—19 to 24 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine subangular blocky structure; friable; common fine roots throughout; common fine pores; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint brown (10YR 5/3) masses of oxidized iron and manganese and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; moderately acid; clear smooth boundary.

2Btg2—24 to 33 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium subangular blocky structure; firm; few fine roots throughout; few fine pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron and common fine and medium faint black (2.5Y 2.5/1) masses of manganese throughout; moderately acid; clear smooth boundary.

2Btg3—33 to 51 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine prismatic structure; firm; few fine roots in cracks; few fine pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent dark yellowish brown (10YR 4/6) masses of oxidized iron throughout, common fine faint black (2.5Y 2.5/1) manganese concretions throughout, and common fine prominent white (10YR 8/1) masses throughout; slightly acid; clear smooth boundary.

2Btg4—51 to 61 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure; firm; few fine roots in cracks; few fine pores; common distinct dark gray (10YR 4/1) clay films on faces of peds and in pores; many fine prominent light

olive brown (2.5Y 5/4) masses of oxidized iron throughout, common fine distinct white (10YR 8/1) masses throughout, and common fine distinct black (2.5Y 2.5/1) masses of manganese throughout; moderately acid; clear smooth boundary.

2BCg—61 to 80 inches; gray (10YR 5/1) silty clay loam; very weak coarse prismatic structure; firm; common fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron and common fine distinct white (10YR 8/1) masses throughout; slightly acid.

Range in Characteristics

Thickness of the dark surface layer: 7 to 10 inches
Thickness of the loess: 20 to 40 inches
Depth to the base of soil development: 50 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

BA horizon(s) (where present):
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Texture—silt loam or silty clay loam

Bt or Btg horizon(s):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam

2Btg, 2Bt, 2BC, or 2BCg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 3
Texture—silty clay loam, clay loam, clay, or silty clay
Content of rock fragments—0 to 12 percent by volume

470B2—Keller silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes (fig. 4, fig. 5, fig. 6)

Map Unit Composition

Keller and similar soils: 100 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface soil
- Soils that have more clay in the surface layer
- Soils that have less sand within a depth of 40 inches
- Soils that have less clay in the lower part of the subsoil

Properties and Qualities of the Keller Soil

Parent material: Loess over a paleosol that formed in till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Kendall Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

Typical Pedon

Kendall silt loam, 0 to 2 percent slopes, at an elevation of about 650 feet; Douglas County, Illinois; approximately 1,160 feet north and 400 feet west of the center of sec. 36, T. 15 N., R. 10 E.; USGS Oakland, Illinois, topographic quadrangle; lat. 39 degrees 42 minutes 24 seconds N. and long. 88 degrees 2 minutes 17 seconds W., UTM Zone 16, 411010 Easting, 4395720 Northing, NAD83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many very fine and fine roots; few fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; neutral; abrupt smooth boundary.

E—7 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate fine and medium granular structure; friable; many very fine and fine roots; common fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.

BE—11 to 14 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; many very fine and fine roots; common fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.

Btg1—14 to 25 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few medium distinct black (7.5YR 2.5/1) manganese nodules throughout; common fine faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; strongly acid; clear smooth boundary.

Btg2—25 to 41 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse subangular blocky; firm; few very fine and fine roots; common distinct dark grayish brown (10YR 4/2)

clay films on faces of peds; few medium prominent black (7.5YR 2.5/1) manganese nodules throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Btg3—41 to 51 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few very fine and fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; few medium prominent black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.

2Btg4—51 to 58 inches; 40 percent strong brown (7.5YR 5/6), 30 percent yellowish brown (10YR 5/6), and 30 percent gray (5Y 5/1) loam; weak coarse subangular blocky structure; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium prominent black (7.5YR 2.5/1) manganese nodules throughout; about 5 percent fine gravel; neutral; clear smooth boundary.

2Cg1—58 to 74 inches; 45 percent yellowish brown (10YR 5/6), 45 percent gray (5Y 5/1), and 10 percent strong brown (7.5YR 5/6), stratified loam, sandy loam, and silt loam; massive; friable; about 5 percent fine gravel; slightly alkaline; abrupt smooth boundary.

2Cg2 —74 to 80 inches; 60 percent grayish brown (10YR 5/2), 30 percent gray (10YR 5/1), and 10 percent yellowish brown (10YR 5/6), stratified gravelly loam, gravelly sandy loam, and silt loam; massive; friable; slightly effervescent; slightly alkaline.

Range in Characteristics

Depth to carbonates: 40 inches or more
Thickness of the loess: 40 to 60 inches
Depth to the base of soil development: 40 to more than 60 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 5; 2 or 3 in A horizons that are less than 7 inches thick
Chroma—1 to 3
Texture—silt loam

E or Eg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—2 or 3
Texture—silt loam

BE horizon(s) (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silty clay loam

Btg or Bt horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silty clay loam

2Btg, 2Bt, 2BCg, or 2BC horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8

Texture—loam or silt loam
Content of rock fragments—0 to 5 percent by volume

2Cg or 2C horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silt loam, loam, or sandy loam or the gravelly analogs of these textures
Content of rock fragments—0 to 20 percent by volume

7242A—Kendall silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Kendall and similar soils: 88 percent
Dissimilar soils: 12 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface soil
- Soils that contain more than 10 percent sand within a depth of 40 inches
- Soils that have more clay in the subsoil
- Soils that have a thicker dark surface soil

Dissimilar soils:
- The moderately well drained Campton soils, which are not subject to flooding; in the higher positions
- The poorly drained Racoon soils in the lower positions
- Soils that are subject to occasional flooding

Properties and Qualities of the Kendall Soil

Parent material: Loess or other silty material over outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

830—Landfills

Setting

- This map unit consists of areas containing garbage and other refuse and areas of rubble from the demolition of buildings and pavement. The surface is typically covered by a layer of compacted earth. Slopes vary considerably. Some landfills are active, but some have been abandoned.

Map Unit Composition

Landfills: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The well drained Hickory, moderately well drained Homen, and somewhat poorly drained Lawson soils in undisturbed areas

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Lawson Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

Typical Pedon

Lawson silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 685 feet; Adams County, Illinois; approximately 1,900 feet east and 265 feet south of the northwest corner of sec. 3, T. 1 S., R. 5 W.; USGS Clayton, Illinois, topographic quadrangle; lat. 40 degrees 1 minute 4 seconds N. and long. 90 degrees 57 minutes 54 seconds W., UTM Zone 15, 673680 Easting, 4431720 Northing, NAD83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

A1—6 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common fine roots; neutral; clear smooth boundary.

A2—14 to 22 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common fine roots; common fine faint brown (10YR 4/3) masses of oxidized iron and manganese throughout; neutral; clear smooth boundary.

A3—22 to 33 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common fine roots; common fine faint brown (10YR 4/3) masses of oxidized iron and manganese throughout; neutral; clear smooth boundary.

C1—33 to 40 inches; stratified 70 percent very dark grayish brown (10YR 3/2) and 20 percent dark brown (10YR 3/3) silt loam; massive; friable; common fine roots; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron and common fine and medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C2—40 to 56 inches; stratified 60 percent very dark grayish brown (10YR 3/2) and 30 percent dark brown (10YR 3/3) silt loam; massive; friable; few fine roots; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron and common medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C3—56 to 75 inches; stratified 80 percent very dark grayish brown (10YR 3/2) and 10 percent dark brown (10YR 3/3) silt loam; massive; friable; few fine roots; common fine and medium prominent yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron between peds; many medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C4—75 to 80 inches; stratified 80 percent dark grayish brown (10YR 4/2) and 10 percent very dark grayish brown (10YR 3/2) silt loam; massive; friable; common medium and coarse prominent yellowish brown (10YR 5/6) and common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron throughout; common fine faint dark gray (10YR 4/1) iron depletions throughout; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

C horizon(s):
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 to 3
Texture—stratified silt loam or silty clay loam; strata containing more sand occur below a depth of 40 inches in some pedons

3451A—Lawson silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains (fig. 5, fig. 7)

Map Unit Composition

Lawson and similar soils: 92 percent
Dissimilar soils: 8 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a buried soil

Dissimilar soils:
- The poorly drained Sawmill soils in swales
- Soils that are subject to occasional flooding

Properties and Qualities of the Lawson Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Lenzburg Series

Taxonomic classification: Fine-loamy, mixed, active, calcareous, mesic Haplic Udarents

Typical Pedon

Lenzburg silt loam, 1 to 7 percent slopes, at an elevation of 525 feet; Randolph County, Illinois; approximately 12 feet south and 580 feet east of the center of sec. 22, T. 5 S., R. 6 W.; USGS Steeleville, Illinois, topographic quadrangle; lat. 38 degrees 4 minutes 55 seconds N. and long. 89 degrees 44 minutes 54 seconds W., UTM Zone 16, 258966 Easting, 4218479 Northing, NAD83:

Ap—0 to 3 inches; mixed brown (10YR 4/3), light brownish gray (10YR 6/2), yellowish brown 10YR 5/6), and yellowish red (5YR 5/6) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable, slightly hard; about 7 percent gravel from glacial till and channers and flags of limestone and siltstone; slightly effervescent; slightly alkaline; abrupt wavy boundary.

AC—3 to 6 inches; mixed yellowish brown (10YR 5/4), light brownish gray (10YR 6/2), and strong brown (7.5YR 5/6) silt loam; moderate medium platy structure; friable, hard and slightly hard; about 9 percent gravel from glacial till and channers and flags of limestone and siltstone; strongly effervescent; slightly alkaline; abrupt wavy boundary.

C1—6 to 10 inches; brown (10YR 4/3) silt loam; strong thick horizontal layers; massive; firm, hard; few light brownish gray (10YR 6/2) silty clay loam soil fragments; few distinct very dark gray (10YR 3/1) coatings on faces of soil fragments; about 11 percent gravel from glacial till and channers and flags of limestone and siltstone; strongly effervescent; slightly alkaline; abrupt wavy boundary.

C2—10 to 33 inches; mixed brown (7.5YR 4/4) and pale brown (10YR 6/3) clay loam; massive; firm, hard; few vertical cleavage planes; few gray (10YR 5/1) soil fragments throughout and few yellowish red (5YR 5/6) soil fragments in the lower

part; about 9 percent gravel from glacial till and channers and flags of limestone and siltstone; strongly effervescent; slightly alkaline; clear smooth boundary.

C3—33 to 45 inches; mixed dark yellowish brown (10YR 4/4) and pale brown (10YR 6/3) clay loam; massive; firm, hard; few gray (10YR 6/1) and grayish brown (10YR 5/2) soil fragments; about 10 percent gravel from glacial till and channers and flags of limestone and siltstone; strongly effervescent; slightly alkaline; clear smooth boundary.

C4—45 to 60 inches; mixed brown (7.5YR 4/4) and gray (10YR 5/1) channery clay loam; very firm, very hard; few yellowish red (5YR 5/8) soil fragments; about 17 percent rock fragments of limestone; strongly effervescent; slightly alkaline.

Range in Characteristics

Ap, A, or AC horizon(s):
Hue—5YR, 7.5YR, 10YR, 2.5Y, or 5Y
Value—2 to 6
Chroma—1 to 6
Texture—silt loam, loam, or silty clay loam
Content of rock fragments—1 to 15 percent by volume

C horizon(s):
Hue—7.5YR or 10YR
Value—2 to 6
Chroma—1 to 4
Texture—silty clay loam, silt loam, loam, or clay loam or the channery or gravelly analogs of these textures
Content of rock fragments—5 to 35 percent by volume

871B—Lenzburg silt loam, 1 to 7 percent slopes

Setting

Landform: Graded spoil banks
Position on the landform: Summits and shoulders

Map Unit Composition

Lenzburg and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 1 percent or more than 7 percent

Dissimilar components:
- The moderately well drained Harrison and somewhat poorly drained Herrick soils in undisturbed areas
- Areas of water less than 2 acres in size

Properties and Qualities of the Lenzburg Soil

Parent material: Mine spoil or earthy fill from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate

Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

871D—Lenzburg silty clay loam, 7 to 20 percent slopes

Setting

Landform: Graded spoil banks
Position on the landform: Shoulders and backslopes

Map Unit Composition

Lenzburg and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 7 percent or more than 20 percent

Dissimilar components:
- The moderately well drained Harrison and somewhat poorly drained Herrick soils in undisturbed areas
- Areas of water less than 2 acres in size

Properties and Qualities of the Lenzburg Soil

Parent material: Mine spoil or earthy fill from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

871G—Lenzburg silty clay loam, 20 to 60 percent slopes

Setting

Landform: Spoil banks
Position on the landform: Backslopes

Map Unit Composition

Lenzburg and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 20 percent or more than 60 percent

Dissimilar components:
- The moderately well drained Harrison and somewhat poorly drained Herrick soils in undisturbed areas
- Areas of water less than 2 acres in size

Properties and Qualities of the Lenzburg Soil

Parent material: Mine spoil or earthy fill from surface mining
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Marine Series

Taxonomic classification: Fine, smectitic, mesic Aeric Albaqualfs

Typical Pedon

Marine silt loam, 0 to 2 percent slopes, at an elevation of about 500 feet; Madison County, Illinois; approximately 2,030 feet east and 650 feet south of the northwest corner of sec. 21, T. 3 N., R. 5 W.; USGS St. Jacob, Illinois, topographic quadrangle; lat. 38 degrees 41 minutes 50 seconds N. and long. 89 degrees 39 minutes 47 seconds W., UTM Zone 16, 268411 Easting, 4286548 Northing, NAD83:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many very fine roots; few fine spherical prominent black (N 2.5/) manganese nodules; strongly acid; abrupt smooth boundary.

E—9 to 17 inches; light brownish gray (10YR 6/2) silt loam, white (10YR 8/1) dry; weak thin platy structure; friable; common very fine roots; few very fine pores; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine spherical prominent black (N 2.5/) manganese nodules; very strongly acid; abrupt smooth boundary.

Bt1—17 to 25 inches; brown (10YR 4/3) silty clay; moderate medium prismatic structure parting to strong fine angular blocky; very firm; common very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions and few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common fine and medium spherical prominent black (5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; very strongly acid; clear smooth boundary.

Bt2—25 to 34 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine faint grayish brown (2.5Y 5/2) iron depletions and common medium prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; common fine and medium spherical prominent dark reddish brown (5YR 2.5/2) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; very strongly acid; clear smooth boundary.

Btg1—34 to 43 inches; grayish brown (10YR 5/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium distinct light olive brown (2.5Y 5/4) and common coarse prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; few medium spherical prominent black (N 2.5/) manganese nodules with strong prominent brown (7.5YR 4/6) boundaries; very strongly acid; clear smooth boundary.

Btg2—43 to 52 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure; firm; few very fine roots; many faint grayish brown (2.5Y 5/2) clay films on faces of peds; common coarse prominent brownish yellow (10YR 6/8) and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine and medium spherical prominent black (10YR 2/1) manganese nodules with sharp boundaries; slightly acid; gradual smooth boundary.

Btg3—52 to 62 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse subangular blocky structure; friable; few faint grayish brown (2.5Y 5/2) clay films on vertical faces of peds and few distinct dark grayish brown (10YR 4/2) clay films in root channels and in pores; common coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine and medium spherical prominent black (10YR 2/1) manganese nodules with sharp boundaries; slightly acid; gradual smooth boundary.

2C—62 to 80 inches; brown (7.5YR 5/3) silt loam; massive; friable; many medium faint brown (7.5YR 5/2) iron depletions and many coarse distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine irregular distinct black (10YR 2/1) manganese nodules with sharp boundaries; about 8 percent sand; neutral.

Range in Characteristics

Depth to the base of soil development: 42 to more than 80 inches
Thickness of the loess: More than 55 inches

Ap horizon(s):
Hue—10YR
Value—4 or 5 (6 or 7 dry)
Chroma—2 or 3
Texture—silt loam

E horizon(s):
Hue—10YR
Value—5 to 7 (6 to 8 dry)
Chroma—1 or 2
Texture—silt or silt loam

Bt horizon(s):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—3 or 4
Texture—silty clay loam or silty clay

Btg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—silty clay loam or silty clay; grades to silt loam in the lower part in some pedons

BCtg or BCg horizon(s) (where present):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—silty clay loam or silt loam

C or 2C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—5 to 7
Chroma—1 to 3
Texture—silt loam, silty clay loam, clay loam, or loam

517A—Marine silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and talfs (fig. 7)

Map Unit Composition

Marine and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have less clay in the subsoil

Dissimilar soils:
- The poorly drained Pierron soils in swales

Properties and Qualities of the Marine Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 12 to 23 inches to abrupt textural change
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

517B—Marine silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders (fig. 7)

Map Unit Composition

Marine and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have less clay in the subsoil

Dissimilar soils:
- The poorly drained Pierron soils on flats

Properties and Qualities of the Marine Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 12 to 23 inches to abrupt textural change
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete

Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Mascoutah Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Mascoutah silty clay loam, 0 to 2 percent slopes, at an elevation of 428 feet; St. Clair County, Illinois; approximately 75 feet south and 500 feet west of the center of sec. 30, T. 1 N., R. 6 W.; USGS Lebanon, Illinois, topographic quadrangle; lat. 38 degrees 30 minutes 12 seconds N. and long. 89 degrees 48 minutes 31 seconds W., UTM Zone 16, 255085 Easting, 4265401 Northing, NAD83:

Ap—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak medium granular structure; friable; many very fine and few fine roots; few fine spherical prominent strong brown (7.5YR 5/6) iron nodules with sharp boundaries; neutral; abrupt smooth boundary.

A—9 to 16 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to moderate medium granular; friable; many very fine roots; few fine spherical prominent strong brown (7.5YR 5/6) iron nodules with sharp boundaries; neutral; clear smooth boundary.

AB—16 to 21 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; common very fine roots; common distinct black (10YR 2/1) organic coatings on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; few fine and medium spherical faint black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.

Bg—21 to 32 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; common fine and medium spherical distinct black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.

Btg1—32 to 44 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium distinct light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix: few fine and medium spherical distinct black (7.5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; neutral; gradual smooth boundary.

Btg2—44 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings lining channels and pores; few distinct dark gray (10YR 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium spherical prominent black (7.5YR 2.5/1) manganese nodules with diffuse prominent strong brown (7.5YR 4/6) boundaries and few fine and medium

irregular prominent dark reddish brown (5YR 3/4) masses of oxidized iron and manganese; very dark gray (10YR 3/1) krotovina; neutral; gradual smooth boundary.

BCtg—58 to 66 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; friable; few prominent very dark gray (10YR 3/1) organic coatings in pores and channels; common fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine and medium irregular prominent very dark brown (7.5YR 2.5/2) and few medium irregular prominent dark reddish brown (5YR 3/4) masses of oxidized iron and manganese with diffuse prominent strong brown (7.5YR 4/6) boundaries; slightly effervescent; slightly alkaline; gradual smooth boundary.

Cg—66 to 80 inches; gray (5Y 6/1) silt loam; massive; very friable; few distinct very dark gray (10YR 3/1) organic coatings lining pores and channels; common medium and coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine and medium irregular prominent very dark brown (7.5YR 2.5/2) masses of oxidized iron and manganese with diffuse prominent strong brown (7.5YR 4/6) boundaries; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 12 to 24 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 48 to 74 inches
Other features: Some pedons have a BA horizon.

Ap, A, or AB horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 or 1
Texture—silty clay loam

Bg or Btg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 5 in the upper part; 4 to 6 in the lower part
Chroma—0 to 2
Texture—silty clay loam

BCtg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—5 or 6
Chroma—0 to 2
Texture—silt loam; silty clay loam in the upper part in some pedons

385A—Mascoutah silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions
Position on the landform: Talfs (fig. 8)

Map Unit Composition

Mascoutah and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have more clay in the subsoil
- Soils that have a lighter colored subsurface layer

Dissimilar soils:
- The poorly drained Piasa soils, which have a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Mascoutah soil

Properties and Qualities of the Mascoutah Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

M-W—Miscellaneous water

- This map unit consists of manmade areas that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Negley Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Negley loam, in an area of Hickory and Negley loams, 18 to 35 percent slopes, at an elevation of about 549 feet; Montgomery County, Illinois; approximately 1,659 feet east and 2,002 feet north of the southwest corner of sec. 28, T. 8 N., R. 4 W.; USGS Sorento North, Illinois, topographic quadrangle; lat. 39 degrees 6 minutes 23 seconds N. and long. 89 degrees 32 minutes 30 seconds W., UTM Zone 16, 280227 Easting, 4331647 Northing, NAD83:

A—0 to 2 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.
BE—2 to 8 inches; yellowish brown (10YR 5/4) loam; weak thin and medium platy structure parting to moderate very fine subangular blocky; friable; common fine roots; moderately acid; clear wavy boundary.
Bt1—8 to 13 inches; strong brown (7.5YR 4/6) loam; moderate medium subangular blocky structure; friable; common fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt2—13 to 20 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; 2 percent mixed gravel; strongly acid; gradual wavy boundary.
Bt3—20 to 38 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; 4 percent mixed gravel; strongly acid; gradual wavy boundary.
Bt4—38 to 52 inches; strong brown (7.5YR 4/6) clay loam; moderate medium subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; 3 percent mixed gravel; strongly acid; gradual wavy boundary.
Bt5—52 to 73 inches; strong brown (7.5YR 4/6) clay loam; weak medium subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; 4 percent mixed gravel; strongly acid; gradual wavy boundary.
Bt6—73 to 84 inches; strong brown (7.5YR 4/6) loam; weak coarse subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; 5 percent mixed gravel; strongly acid.

Range in Characteristics

Depth to the base of soil development: More than 80 inches

Ap horizon(s) (where present):
Hue—7.5YR or 10YR
Value—4 or 5 (6 or 7 dry)
Chroma—2 to 4
Texture—loam
Content of rock fragments—0 to 15 percent by volume

A horizon(s):
Hue—10YR
Value—2 to 3 (4 or 5 dry)
Chroma—2
Texture—loam
Content of rock fragments—0 to 15 percent by volume

E horizon(s) (where present):
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 5
Texture—loam
Content of rock fragments—0 to 15 percent by volume

BE or BA horizon(s) (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—loam
Content of rock fragments—0 to 15 percent by volume

Bt horizon(s):
Hue—5YR or 7.5YR; less commonly 2.5YR
Value—4 or 5
Chroma—3 to 8
Texture—commonly loam, clay loam, or sandy clay loam or the gravelly analogs of these textures; sandy loam in the lower part in some pedons
Content of rock fragments—0 to 25 percent by volume

BC horizon(s) (where present):
Hue—5YR, 7.5YR, or 10YR
Value—4 or 5
Chroma—3 to 8
Texture—sandy clay loam, sandy loam, coarse sandy loam, or clay loam or the gravelly analogs of these textures
Content of rock fragments—5 to 35 percent by volume

C horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—stratified or has dominant textures of coarse sandy loam, gravelly sand, gravelly sandy loam, or gravelly loamy sand; thin layers of finer textured material included in some pedons
Content of rock fragments—5 to 35 percent by volume

998F—Hickory and Negley loams, 18 to 35 percent slopes

Setting

Landform: Ground moraines and crevasse fillings on ground moraines
Position on the landform: Hickory—backslopes on ground moraines; Negley—backslopes on crevasse fillings on ground moraines

Map Unit Composition

Hickory and similar soils: 50 percent
Negley and similar soils: 40 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils in which the surface soil contains less sand
- Soils that have more rock fragments in the surface soil and subsoil

Dissimilar soils:
- The well drained Parke and Pike soils in the higher, less sloping positions

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface

Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Negley Soil

Parent material: Loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—6e; Negley—6e
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Negley—not hydric

Oconee Series

Taxonomic classification: Fine, smectitic, mesic Udollic Endoaqualfs

Typical Pedon

Oconee silt loam, 2 to 5 percent slopes, at an elevation of about 560 feet; Madison County, Illinois; approximately 1,315 feet east and 2,245 feet north of the southwest corner of sec. 29, T. 5 N., R. 5 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 50 minutes 58 seconds N. and long. 89 degrees 41 minutes 17 seconds W., UTM Zone 16, 266718 Easting, 4303509 Northing, NAD83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure grading to weak thin platy in the lower part; very friable; common very fine roots; common very fine tubular pores within peds; few fine faint spherical black (10YR 2/1) manganese nodules with sharp boundaries; slightly acid; abrupt smooth boundary.

E1—8 to 12 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; moderate thick platy structure; very friable; few very fine roots; few very fine tubular pores within peds; many distinct brown (10YR 5/3) clay depletions in pores; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; few fine and medium irregular distinct very dark gray (5YR 3/1) iron-manganese nodules with sharp boundaries; moderately acid; clear smooth boundary.

E2—12 to 16 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate fine and medium subangular blocky structure; friable; few very fine roots; common very fine pores within and between peds; many distinct brown

(10YR 5/3) clay depletions in pores; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine and medium spherical distinct dark brown (7.5YR 3/2) iron-manganese nodules with clear boundaries; moderately acid; clear smooth boundary.

Bt/E—16 to 21 inches; brown (10YR 5/3) silty clay loam (Bt); strong very fine subangular blocky structure; firm; few very fine roots; common fine pores in the silty material between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds and many prominent light brownish gray (10YR 6/2) clay depletions on faces of peds and in pores (E); many medium prominent strong brown (7.5YR 5/6) masses of oxidized iron and few fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; few fine and medium spherical distinct dark brown (7.5YR 3/2) iron-manganese nodules with clear boundaries; strongly acid; clear irregular boundary.

Bt—21 to 29 inches; brown (10YR 5/3) silty clay; moderate medium prismatic structure parting to strong fine and medium angular blocky; very firm; few very fine roots between peds; few fine pores between peds; many prominent dark grayish brown (10YR 4/2) clay films on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium spherical prominent black (5YR 2.5/1) manganese nodules with sharp boundaries; strongly acid; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots between peds; few fine pores between peds; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) and common coarse prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; common fine and medium spherical prominent black (5YR 2.5/1) manganese nodules with sharp boundaries; strongly acid; clear smooth boundary.

Btg2—38 to 47 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; few fine pores between peds; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium prominent light olive brown (2.5Y 5/6), common medium prominent yellowish brown (10YR 5/8), and few medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine and medium irregular prominent black (5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; moderately acid; clear smooth boundary.

Btg3—47 to 58 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine pores between peds; many prominent very dark grayish brown (10YR 3/2) organic coatings lining root channels and filling pores; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium and coarse prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium irregular prominent black (5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; moderately acid; clear smooth boundary.

C1—58 to 65 inches; brown (10YR 5/3) silt loam; massive; friable; few vertical cleavage planes; few fine vesicular pores; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of cleavage planes; many medium prominent yellowish brown (10YR 5/8) and common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine and medium irregular prominent black (5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; slightly acid; gradual smooth boundary.

C2—65 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common fine and medium vesicular pores; few prominent very dark grayish brown (10YR 3/2) organic coatings lining root channels and filling pores; few fine distinct grayish brown (10YR 5/2) iron depletions and few medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few medium irregular distinct black (10YR 2/1) manganese nodules with sharp boundaries; neutral.

Range in Characteristics

Depth to the base of soil development: 42 to more than 80 inches
Thickness of the loess: More than 55 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3 (4 or 5 dry)
Chroma—1 or 2; 1 to 3 in some eroded pedons
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 to 7 (6 to 8 dry)
Chroma—1 or 2; chroma of 3 accompanied by redoximorphic features in some pedons
Texture—silt loam

Bt or Btg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam, silt loam, or silty clay

BC or CB horizon(s) (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silt loam

C or 2C horizon(s) (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 8
Texture—silt loam, silty clay loam, clay loam, or loam
Content of rock fragments—0 to 2 percent by volume

113A—Oconee silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and talfs (fig. 6)

Map Unit Composition

Oconee and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
• Soils that have a lighter colored surface layer

- Soils that have a thicker dark surface layer
- Soils that have more sand in the lower part of the subsoil

Dissimilar soils:

- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Oconee soil
- The poorly drained Piasa soils, which have a high concentration of exchangeable sodium in the subsoil; in depressions
- The poorly drained Cowden soils in swales

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

113B—Oconee silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and knolls
Position on the landform: Summits and shoulders on ground moraines; the lower backslopes on high knolls (fig. 6)

Map Unit Composition

Oconee and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:

- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface layer
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:

- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Oconee soil

- The moderately well drained Tamalco soils, which contain a high concentration of exchangeable sodium in the subsoil; in the slightly higher positions
- The poorly drained Cowden soils in swales

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

113B2—Oconee silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines and knolls
Position on the landform: Summits and shoulders on ground moraines; the lower backslopes on high knolls (fig. 6)

Map Unit Composition

Oconee and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less clay in the subsoil
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the lower part of the subsoil
- Soils that have a lighter colored surface layer

Dissimilar soils:
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Oconee soil
- The moderately well drained Tamalco soils, which contain a high concentration of exchangeable sodium in the subsoil; in the slightly higher positions
- The poorly drained Cowden soils in swales

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

882A—Oconee-Darmstadt-Coulterville silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and talfs (fig. 5)

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker, darker surface layer
- Soils that are redder in the upper part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils in swales
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2w; Darmstadt—3w; Coulterville—2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

882B—Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Oconee—summits and shoulders; Darmstadt and Coulterville—summits, shoulders, and backslopes

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker dark surface layer
- Soils that are redder in the upper part of the subsoil
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils on flats
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2e; Darmstadt—3e; Coulterville—2e
Prime farmland category: Prime farmland
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

882B2—Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Oconee—summits and shoulders; Darmstadt and Coulterville—summits, shoulders, and backslopes (fig. 5)

Map Unit Composition

Oconee and similar soils: 40 percent
Darmstadt and similar soils: 29 percent
Coulterville and similar soils: 25 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a thicker surface soil
- Soils that are redder in the upper part of the subsoil
- Soils that have more clay in the lower part of the subsoil

Dissimilar soils:
- The poorly drained Cowden soils on flats
- The poorly drained Piasa soils in depressions

Properties and Qualities of the Oconee Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.

Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Darmstadt Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 19 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Coulterville Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Oconee—2e; Darmstadt—3e; Coulterville—2e
Prime farmland category: Prime farmland
Hydric soil status: Oconee—not hydric; Darmstadt—not hydric; Coulterville—not hydric

802B—Orthents, loamy, undulating

Setting

General description: Cut and fill areas and borrow areas where soil has been disturbed, mainly around slurry pits and coal mining sites
Landform: Ground moraines

Map Unit Composition

Orthents and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 7 percent

Dissimilar components:
- The well drained Hickory, moderately well drained Harrison, and somewhat poorly drained Herrick soils in undisturbed areas
- Rock piles, access roads, buildings, parking lots, and water areas less than 2 acres in size
- Areas used as gravel pits

Properties and Qualities of the Orthents

Parent material: Mine spoil or earthy fill consisting of loamy material derived from former soil layers and underlying material
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

802E—Orthents, loamy, hilly

Setting

General description: Cut and fill areas and borrow areas where soil has been disturbed, mainly around slurry pits and coal mining sites
Landform: Ground moraines

Map Unit Composition

Orthents and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 12 percent or more than 30 percent

Dissimilar components:
- The well drained Hickory, Negley, and Parke soils in undisturbed areas
- The somewhat poorly drained Herrick soils in undisturbed areas

- Rock piles, access roads, buildings, parking lots, and water areas less than 2 acres in size
- Areas used as gravel pits

Properties and Qualities of the Orthents

Parent material: Mine spoil or earthy fill consisting of loamy material derived from former soil layers and underlying material
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Pana Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Mollic Hapludalfs

Typical Pedon

Pana loam, 5 to 10 percent slopes, eroded, at an elevation of 751 feet; Montgomery County, Illinois; approximately 2,764 feet east and 2,045 feet north of the southwest corner of sec. 3, T. 10 N., R. 1 W.; Ohlman, Illinois, topographic quadrangle; lat. 39 degrees 20 minutes 25 seconds N. and long. 89 degrees 11 minutes 10 seconds W., UTM Zone 16, 311599 Easting, 4356826 Northing, NAD83:

Ap—0 to 5 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; many fine roots; neutral; abrupt smooth boundary.
A—5 to 8 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; friable; many fine roots; 1 percent mixed gravel; neutral; clear smooth boundary.
Bt1—8 to 17 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; many fine roots; many distinct brown (7.5YR 4/2) clay films on faces of peds; 1 percent mixed gravel; neutral; clear smooth boundary.
Bt2—17 to 24 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; common fine roots; many distinct brown (7.5YR 4/2) clay films on faces of peds; 3 percent mixed gravel; moderately acid; clear smooth boundary.
Bt3—24 to 44 inches; brown (7.5YR 4/4) clay loam; moderate medium and coarse subangular blocky structure; friable; few fine roots; many distinct brown (7.5YR 4/2) clay films on faces of peds; 3 percent mixed gravel; moderately acid; gradual smooth boundary.

Bt4—44 to 62 inches; brown (7.5YR 4/4) clay loam; weak coarse subangular blocky structure; friable; common distinct brown (7.5YR 4/2) clay films on faces of peds; 3 percent mixed gravel; moderately acid; gradual smooth boundary.

C—62 to 83 inches; strong brown (7.5YR 4/6) sandy loam; massive; friable; 6 percent mixed gravel; moderately acid.

Range in Characteristics

Thickness of the dark surface layer: 5 to 9 inches
Depth to the base of soil development: 50 to 75 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 to 3
Texture—loam
Content of rock fragments—0 to 5 percent by volume

Bt horizon(s):
Hue—5YR or 7.5YR
Value—3 to 6
Chroma—3 to 6
Texture—loam, clay loam, gravelly loam, or gravelly clay loam
Content of rock fragments—1 to 25 percent by volume

C horizon(s):
Hue—5YR or 7.5YR
Value—3 to 6
Chroma—3 to 6
Texture—loam, sandy loam, gravelly loam, or gravelly sandy loam
Content of rock fragments—5 to 30 percent by volume

2C horizon(s) (where present):
Hue—5YR or 7.5YR
Value—3 to 6
Chroma—3 to 6
Texture—stratified gravel and sand or loamy sand
Content of rock fragments—10 to 35 percent by volume

256C2—Pana loam, 5 to 10 percent slopes, eroded

Setting

Landform: Knolls on ground moraines
Position on the landform: Summits, shoulders, and backslopes (fig. 6)

Map Unit Composition

Pana and similar soils: 95 percent
Dissimilar soils: 5 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface soil
- Soils that have slopes of more than 10 percent

- Soils that have less sand in the upper part of the subsoil
- Soils that have a lighter colored surface layer and have less sand in the upper part of the subsoil

Dissimilar soils:

- The somewhat poorly drained Oconee soils in the lower positions

Properties and Qualities of the Pana Soil

Parent material: Loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Parke Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs
Taxadjunct features: The Parke soils in this survey area have more than 60 percent base saturation at a depth of 50 inches below the top of the argillic horizon. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Typic Hapludalfs.

Typical Pedon

Parke silt loam, 5 to 10 percent slopes, eroded, at an elevation of about 221 feet; Montgomery County, Illinois; approximately 2,431 feet south and 2,945 feet east of the northwest corner of sec. 21, T. 10 N., R. 1 W.; USGS Ohlman, Illinois, topographic quadrangle; lat. 39 degrees 18 minutes 47 seconds N. and long. 89 degrees 12 minutes 47 seconds W., UTM Zone 16, 309162 Easting, 4352262 Northing, NAD83:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots throughout; neutral; abrupt smooth boundary.

Bt1—6 to 11 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; many fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—11 to 15 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots throughout;

many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—15 to 25 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt4—25 to 29 inches; 50 percent dark yellowish brown (10YR 4/6) and 50 percent brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 1 percent gravel; strongly acid; gradual smooth boundary.

3Btb1—29 to 56 inches; strong brown (7.5YR 4/6) loam; weak coarse subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 1 percent gravel; strongly acid; gradual smooth boundary.

3Btb2—56 to 93 inches; brown (7.5YR 4/4) clay loam; weak coarse subangular blocky structure; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 1 percent gravel; strongly acid.

Range in Characteristics

Thickness of the loess or silty material: 20 to 40 inches
Depth to the base of soil development: 80 to more than 100 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam

EB or E horizon(s) (where present):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam

Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silty clay loam or silt loam

2Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam
Content of rock fragments—0 to 1 percent by volume

3Btb horizon(s):
Hue—7.5YR
Value—3 to 5
Chroma—3 to 6
Texture—loam, sandy loam, or clay loam
Content of rock fragments—0 to 10 percent by volume

15C2—Parke silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Knolls on ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Parke and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 6 feet and average less than 30 percent sand in the lower part of the subsoil
- Soils that have less sand in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Bluford soils in the less sloping positions
- The well drained Hickory and Negley soils on the lower backslopes

Properties and Qualities of the Parke Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

15D2—Parke silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Knolls on ground moraines
Position on the landform: Backslopes

Map Unit Composition

Parke and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 6 feet and average less than 30 percent sand in the lower part of the subsoil
- Soils that have less sand in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Bluford soils in the less sloping positions
- The well drained Hickory and Negley soils on the lower backslopes

Properties and Qualities of the Parke Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Piasa Series

Taxonomic classification: Fine, smectitic, mesic Mollic Natraqualfs

Typical Pedon

Piasa silt loam, in an area of Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes, at an elevation of about 630 feet; Montgomery County, Illinois; approximately 277 feet west and 85 feet south of the northeast corner of sec. 26, T. 9 N., R. 4 W.; USGS Hillsboro, Illinois, topographic quadrangle; lat. 39 degrees 12 minutes 8 seconds N. and long. 89 degrees 29 minutes 37 seconds W., UTM Zone 16, 284669 Easting, 4342186 Northing, NAD83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common very fine roots; few fine and medium faint black (5YR 2.5/1) manganese nodules; 9 percent exchangeable sodium; neutral; abrupt smooth boundary.

Eg—8 to 12 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; moderate thin and medium platy structure; friable; few very fine roots; light gray (10YR 7/1) (dry) clay depletions on faces of peds; few prominent black (10YR 2/1) organic coatings filling pores; common fine and medium prominent black (5YR 2.5/1) manganese nodules; 14 percent exchangeable sodium; slightly alkaline; abrupt wavy boundary.

Btng—12 to 16 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak very coarse columnar structure parting to moderate fine angular blocky; firm; few very fine roots; common distinct gray (10YR 6/1) (dry) clay depletions on the slightly spherical caps of the columns and on the faces of the columns; common prominent black (10YR 2/1) organic coatings lining root channels and filling pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; common fine distinct dark yellowish brown (10YR 4/4) and few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; 19 percent exchangeable sodium; slightly alkaline; clear smooth boundary.

Btkng1—16 to 20 inches; dark grayish brown (2.5Y 4/2) silty clay; weak very coarse prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; few prominent black (10YR 2/1) organic coatings lining root channels and filling pores; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) and few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; few fine and medium faint very dark grayish brown (2.5Y 3/2) and distinct black (10YR 2/1) manganese nodules throughout; few medium spherical prominent white (10YR 8/1) carbonate concretions; 23 percent exchangeable sodium; slightly effervescent; slightly alkaline; clear smooth boundary.

Btkng2—20 to 26 inches; dark grayish brown (2.5Y 4/2) silty clay; weak very coarse prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; few prominent black (10YR 2/1) organic coatings lining root channels and filling pores; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine distinct olive brown (2.5Y 4/4) masses of oxidized iron and manganese and few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine and medium distinct black (10YR 2/1) manganese nodules; common medium and coarse prominent white (10YR 8/1) carbonate concretions; 26 percent exchangeable sodium; slightly effervescent; moderately alkaline; clear smooth boundary.

Btkng3—26 to 33 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak very coarse prismatic structure parting to weak and moderate medium angular blocky; firm; few very fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium distinct black (10YR 2/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; common medium and coarse prominent white (10YR 8/1) carbonate concretions; 27 percent exchangeable sodium; slightly effervescent; moderately alkaline; clear smooth boundary.

Btkng4—33 to 37 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak very coarse prismatic structure parting to weak coarse angular blocky; friable; few very fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium and coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine and medium black (10YR 2/1) manganese nodules with clear prominent strong brown (7.5YR 5/6) boundaries; few medium prominent white (10YR 8/1) carbonate concretions; 28 percent exchangeable sodium; slightly effervescent; slightly alkaline; clear smooth boundary.

BCtg—37 to 48 inches; grayish brown (2.5Y 5/2) silt loam; weak coarse angular blocky structure; friable; few very fine roots; few faint gray (10YR 5/1) clay films on vertical faces of peds; many coarse prominent yellowish brown (10YR 5/6) and common fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine prominent black (10YR 2/1) manganese nodules with sharp boundaries; 20 percent exchangeable sodium; slightly alkaline; clear smooth boundary.

2Btgb1—48 to 62 inches; gray (10YR 5/1) silt loam; moderate fine and medium prismatic structure parting to weak medium angular blocky; friable; few fine vesicular pores; few prominent very dark gray (10YR 3/1) organic coatings lining root channels and filling pores and many distinct dark gray (10YR 4/1) clay films on faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron and prominent reddish brown (5YR 4/4) masses of oxidized iron and manganese in the matrix; few medium and coarse distinct black (10YR 2/1) manganese nodules with diffuse prominent strong brown (7.5YR 5/6) boundaries; 1 percent pebbles; 12 percent exchangeable sodium; slightly alkaline; gradual smooth boundary.

2Btgb2—62 to 80 inches; grayish brown (10YR 5/2) clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; few fine vesicular pores; few prominent very dark gray (10YR 3/1) organic coatings lining root channels and filling pores and common distinct dark gray (10YR 4/1) clay films on faces of peds; many medium and coarse prominent yellowish brown (10YR 5/8) and few fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; about 5 percent pebbles; 6 percent exchangeable sodium; neutral.

Range in Characteristics

Thickness of the loess: 40 to 72 inches
Depth to the base of soil development: 40 to more than 80 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam

Btng, Btkng, or Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam, silty clay, or silt loam

BCg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silt loam

2Btgb horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam, silty clay loam, loam, or clay loam
Content of rock fragments—0 to 5 percent by volume

894A—Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions
Position on the landform: Herrick and Biddle—talfs and summits; Piasa—talfs, toeslopes, and depressions (fig. 6)

Map Unit Composition

Herrick and similar soils: 40 percent
Biddle and similar soils: 35 percent
Piasa and similar soils: 25 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have a lighter colored surface soil
- Soils that have a seasonal high water table at a depth of more than 2 feet

Properties and Qualities of the Herrick Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Biddle Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Piasa Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 9 to 17 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Herrick—1; Biddle—1; Piasa—3w
Prime farmland category: Prime farmland
Hydric soil status: Herrick—not hydric; Biddle—not hydric; Piasa—hydric

993A—Cowden-Piasa silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 5, fig. 6)

Map Unit Composition

Cowden and similar soils: 55 percent
Piasa and similar soils: 45 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface layer
- Soils that are browner in the upper part of the subsoil

Properties and Qualities of the Cowden Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 12 to 24 inches to abrupt textural change
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Piasa Soil

Parent material: Loess over mixed loess and drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 9 to 17 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Cowden—2w; Piasa—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Cowden—hydric; Piasa—hydric

Pierron Series

Taxonomic classification: Fine, smectitic, mesic Typic Albaqualfs

Typical Pedon

Pierron silt loam, 0 to 2 percent slopes, at an elevation of about 540 feet; Madison County, Illinois; approximately 1,730 feet east and 80 feet south of the northwest corner of sec. 14, T. 4 N., R. 6 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 48 minutes 2 seconds N. and long. 89 degrees 44 minutes 19 seconds W., UTM Zone 16, 262167 Easting, 4298213 Northing, NAD83:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; very friable; many very fine and common fine roots; many distinct light brownish gray (10YR 6/2) (dry) clay depletions on faces of peds; few fine spherical distinct black (5YR 2.5/1) manganese nodules; slightly acid; abrupt smooth boundary.

Eg1—8 to 12 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thin platy structure; very friable; few very fine roots; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; many fine and medium spherical prominent reddish brown (5YR 4/4) and dark reddish brown (5YR 2.5/2) iron-manganese nodules throughout; moderately acid; clear smooth boundary.

Eg2—12 to 20 inches; light brownish gray (10YR 6/2) silt loam, light gray (10YR 7/1) dry; moderate thick platy structure parting to weak fine subangular blocky; very friable; few very fine roots; many distinct white (10YR 8/1) (dry) clay depletions on faces of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels; common medium distinct light olive brown (2.5Y 5/4)

masses of oxidized iron and few fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; common medium spherical prominent black (5YR 2.5/1) manganese nodules with clear prominent reddish brown (5YR 4/4) boundaries; strongly acid; abrupt smooth boundary.

Btg1—20 to 29 inches; light brownish gray (2.5Y 6/2) silty clay; moderate medium prismatic structure parting to strong fine and medium angular blocky; very firm; few very fine roots; few prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many prominent grayish brown (2.5Y 5/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/4) and few fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; common medium spherical prominent dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; very strongly acid; clear smooth boundary.

Btg2—29 to 36 inches; light brownish gray (2.5Y 6/2) silty clay; strong medium prismatic structure parting to moderate medium angular blocky; very firm; common prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many prominent grayish brown (2.5Y 5/2) clay films on faces of peds; common coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium spherical prominent dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; very strongly acid; clear smooth boundary.

Btg3—36 to 44 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium angular blocky; very firm; common prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many distinct grayish brown (2.5Y 5/2) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common medium spherical prominent black (5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; strongly acid; clear smooth boundary.

Btg4—44 to 55 inches; light olive gray (5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; common distinct dark gray (10YR 4/1) clay films lining root channels and common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common coarse prominent strong brown (7.5YR 5/6) and common medium prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; common medium spherical prominent black (5YR 2.5/1) manganese nodules with clear prominent strong brown (7.5YR 4/6) boundaries; moderately acid; gradual smooth boundary.

Btg5—55 to 66 inches; light olive gray (5Y 6/2) silty clay loam; weak coarse prismatic structure; friable; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common medium prominent brownish yellow (10YR 6/8) and yellowish brown (10YR 5/8) and common fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine irregular prominent black (5YR 2.5/1) manganese nodules; slightly acid; clear smooth boundary.

2Cg—66 to 80 inches; grayish brown (2.5Y 5/2) silt loam; massive; friable; common fine and medium prominent brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; few fine and medium irregular prominent black (10YR 2/1) masses of manganese with prominent diffuse strong brown (7.5YR 4/6) boundaries; about 10 percent sand; neutral.

Range in Characteristics

Depth to the base of soil development: 50 to more than 80 inches
Thickness of the loess: 55 to 80 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5 (5 to 7 dry)
Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR or 2.5Y
Value—5 or 6 (6 to 8 dry)
Chroma—1 or 2
Texture—silt loam or silt

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay

BCg horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silt loam

Cg or 2Cg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 7
Chroma—0 to 2
Texture—silt loam, loam, silty clay loam, or clay loam

31A—Pierron silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions
Position on the landform: Talfs

Map Unit Composition

Pierron and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more brown in the upper part of the subsoil
- Soils that have a thicker dark surface layer
- Soils that have more sand in the lower part of the subsoil

Dissimilar soils:
- The moderately well drained Homen soils in the more sloping positions

Properties and Qualities of the Pierron Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow to moderately slow
Depth to restrictive feature: 14 to 24 inches to abrupt textural change

Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Pike Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs
Taxadjunct features: The Pike soils in this survey area have more than 60 percent base saturation at a depth of 50 inches below the top of the argillic horizon. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Typic Hapludalfs.

Typical Pedon

Pike silt loam, 2 to 5 percent slopes, at an elevation of about 600 feet; Montgomery County, Illinois; approximately 80 feet south and 2,009 feet west of the northeast corner of sec. 22, T. 8 N., R. 4 W.; USGS Butler, Illinois, topographic quadrangle; lat. 39 degrees 7 minutes 46 seconds N. and long. 89 degrees 31 minutes 3 seconds W., UTM Zone 16, 282387 Easting, 4334161 Northing, NAD83:

Ap—0 to 5 inches; light brownish gray (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many fine roots throughout; slightly acid; abrupt smooth boundary.

BA—5 to 11 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; many fine roots throughout; slightly acid; clear smooth boundary.

Bt1—11 to 17 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots throughout; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—17 to 31 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots throughout; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—31 to 46 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots throughout; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; strongly acid; abrupt smooth boundary.

2Bt4—46 to 57 inches; brown (7.5YR 4/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; strongly acid; clear smooth boundary.

3Btb1—57 to 67 inches; brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; 1 percent mixed gravel; strongly acid; clear smooth boundary.

3Btb2—67 to 80 inches; reddish brown (5YR 4/4) loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; 1 percent mixed gravel; strongly acid.

Range in Characteristics

Thickness of the loess or silty material: 40 to 60 inches
Depth to the base of soil development: More than 80 inches

Ap horizon(s):
Hue—10YR
Value—4 or 5; 3 in A horizons that are less than 6 inches thick
Chroma—2 to 6; 2 or 3 in A horizons that are less than 6 inches thick
Texture—silt loam

BA or BE horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam

Bt horizon(s):
Hue—10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam

2Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam
Content of rock fragments—0 to 1 percent by volume

3Btb horizon(s):
Hue—2.5YR to 7.5YR; 5YR or redder in some part; ranges to 10YR in the lower part
Value—4 or 5
Chroma—4 to 6
Texture—clay loam or loam
Content of rock fragments—0 to 15 percent by volume

583A—Pike silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Pike and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand and gravel in the upper part of the subsoil
- Soils that have more sand and gravel in the upper part of the subsoil and have a darker surface layer
- Soils that have a thicker dark surface layer
- Soils that have more sand in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Bluford soils in the slightly lower positions

Properties and Qualities of the Pike Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

583B—Pike silt loam, 2 to 5 percent slopes

Setting

Landform: Knolls and ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Pike and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have more sand and gravel in the upper part of the subsoil
- Soils that have more sand and gravel in the upper part of the subsoil and have a darker surface layer
- Soils that have a thicker dark surface layer
- Soils that have more sand in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Bluford soils in the slightly lower positions

Properties and Qualities of the Pike Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

583C2—Pike silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Knolls and ground moraines
Position on the landform: Shoulders and backslopes (fig. 6)

Map Unit Composition

Pike and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker dark surface layer
- Soils that have more clay in the surface layer
- Soils that have more sand and gravel in the upper part of the subsoil and have a darker surface layer
- Soils that have more sand in the upper part of the subsoil
- Soils that have a seasonal high water table at a depth of less than 6 feet and average less than 30 percent sand in the lower part of the subsoil

Dissimilar soils:
- The well drained Hickory and Negley soils in the more sloping positions

Properties and Qualities of the Pike Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate

Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

583D2—Pike silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Knolls and ground moraines
Position on the landform: Backslopes (fig. 6)

Map Unit Composition

Pike and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have more sand and gravel in the upper part of the subsoil and have a darker surface layer
- Soils that have more sand in the upper part of the subsoil
- Soils that have a seasonal high water table at a depth of less than 6 feet and average less than 30 percent sand in the lower part of the subsoil

Dissimilar soils:
- The well drained Hickory and Negley soils in the more sloping positions

Properties and Qualities of the Pike Soil

Parent material: Loess over mixed loess and drift over loamy drift
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

864—Pits, quarries

Setting

- This map unit consists of open excavations from which limestone has been removed or is being removed.

Map Unit Composition

Pits, quarries: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The somewhat poorly drained Herrick soils in undisturbed areas
- The well drained Lenzburg soils in areas adjacent to the quarry
- Stockpiles of stone and debris
- Areas covered by machinery

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Racoon Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaqualfs

Typical Pedon

Racoon silt loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of about 545 feet; Montgomery County, Illinois; approximately 312 feet east and 480 feet south of the northwest corner of sec. 31, T. 8 N., R. 4 W.; USGS Sorento North, Illinois, topographic quadrangle; lat. 39 degrees 5 minutes 59 seconds N. and long. 89 degrees 35 minutes 4 seconds W., UTM Zone 16, 276500 Easting, 4331020 Northing, NAD83:

Ap—0 to 13 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many fine roots throughout; few fine irregular prominent strong brown (7.5YR 5/6) masses of oxidized iron and common fine irregular distinct brown (7.5YR 4/4) masses of oxidized iron and manganese throughout; moderately acid; abrupt smooth boundary.

Eg—13 to 25 inches; light brownish gray (10YR 6/2) silt loam; weak thin platy structure; friable; few fine roots throughout; many faint light gray (10YR 7/2) clay depletions on faces of peds; common fine irregular prominent black (7.5YR 2.5/1) masses of manganese, common fine irregular prominent strong brown (7.5YR 5/6) masses of oxidized iron, and common fine irregular distinct brown (7.5YR 4/4) masses of oxidized iron and manganese throughout; moderately acid; gradual smooth boundary.

EBg—25 to 33 inches; light brownish gray (10YR 6/2) silt loam; weak thin platy structure parting to weak fine subangular blocky; friable; many faint light gray (10YR 7/2) clay depletions on faces of peds; few fine irregular distinct brown (7.5YR 4/4) masses of oxidized iron and manganese, few fine irregular prominent strong brown (7.5YR 5/6) masses of oxidized iron, and few fine irregular prominent black (7.5YR 2.5/1) masses of manganese throughout; strongly acid; clear smooth boundary.

Btg1—33 to 46 inches; grayish brown (10YR 5/2) silty clay loam; weak medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds and many distinct light gray (10YR 7/2) silt coatings on faces of peds; strongly acid; gradual smooth boundary.

Btg2—46 to 55 inches; variegated yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) silty clay loam; moderate medium and coarse subangular blocky structure; friable; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine spherical prominent very dark brown (7.5YR 2.5/2) masses of oxidized iron and manganese throughout; strongly acid; gradual smooth boundary.

Btg3—55 to 74 inches; variegated yellowish brown (10YR 5/6) and light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine spherical prominent black (7.5YR 2.5/1) masses of manganese; moderately acid; gradual smooth boundary.

BCg—74 to 87 inches; variegated yellowish brown (10YR 5/6) and light brownish gray (2.5Y 6/2) silty clay loam; weak coarse subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organic stains along root channels; slightly acid.

Range in Characteristics

Depth to the base of soil development: 40 to more than 80 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 6 (5 to 7 dry)
Chroma—2 or 3
Texture—silt loam

Eg or EBg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam

Btg or BCg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 7
Chroma—0 to 2
Texture—silty clay loam

Cg horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam or loam; stratified in some pedons

8109A—Racoon silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains (fig. 7)

Map Unit Composition

Racoon and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface soil
- Soils that are browner in the upper part of the subsoil

Dissimilar soils:
- Soils that are not subject to flooding

Properties and Qualities of the Racoon Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Occasional, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Radford Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Radford silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 567 feet; Cass County, Illinois; approximately 2,700 feet east and 1,320 feet south of the northwest corner of sec. 2, T. 17 N., R. 9 W.; USGS Ashland, Illinois, topographic quadrangle; lat. 39 degrees 57 minutes 23.2 seconds N. and long. 90 degrees 4 minutes 44.1 seconds W., UTM Zone 15, 749520 Easting, 4427010 Northing, NAD83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure parting to moderate fine and medium granular; friable; few very fine roots; neutral; clear smooth boundary.

A—7 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine roots; neutral; clear smooth boundary.

C—12 to 33 inches; dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) silt loam with common thin grayish brown (10YR 5/2) and brown (10YR 5/3) lenses; massive; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings in worm channels; few fine distinct spherical black (7.5YR 2.5/1) manganese concretions with diffuse boundaries throughout; neutral; clear smooth boundary.

Ab1—33 to 42 inches; very dark gray (10YR 3/1) silt loam; weak fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; slightly alkaline; gradual smooth boundary.

Ab2—42 to 72 inches; very dark gray (10YR 3/1) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; few distinct gray (10YR 6/1) (dry) clay depletions on faces of peds; few fine spherical faint black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Bgb—72 to 80 inches; grayish brown (10YR 5/2) silt loam; moderate medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings lining root channels and pores; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to the buried soil: 20 to 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—silt loam

C horizon(s):
Hue—10YR
Value—2 to 6
Chroma—1 to 4
Texture—silt loam

Ab horizon(s):
Hue—10YR or N
Value—2 to 3
Chroma—0 or 1
Texture—silt loam, silty clay loam, clay loam, or loam

Bgb horizon(s) (where present):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silt loam, silty clay loam, clay loam, or loam

3074A—Radford silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Radford and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have more sand throughout

Dissimilar soils:
- The poorly drained Sawmill soils in swales
- Soils that are subject to occasional flooding

Properties and Qualities of the Radford Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Sawmill Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

Typical Pedon

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 535 feet; Sangamon County, Illinois; approximately 300 feet south and 750 feet east of the northwest corner of sec. 20, T. 15 N., R. 4 W.; USGS New City, Illinois, topographic quadrangle; lat. 39 degrees 44 minutes 34 seconds N. and long. 89 degrees 34 minutes 15 seconds W., UTM Zone 16, 279712 Easting, 4402375 Northing, NAD83:

Ap—0 to 10 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; firm; few fine roots; few subrounded pebbles 1 to 3 mm in diameter; slightly acid; clear smooth boundary.

A1—10 to 17 inches; black (10YR 2.5/1) and very dark grayish brown (10YR 3/2) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; few fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few subrounded pebbles 1 to 3 mm in diameter; neutral; clear smooth boundary.

A2—17 to 25 inches; black (10YR 2.5/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; firm; few fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

AB—25 to 32 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bg—32 to 40 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Btg1—40 to 49 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine spherical distinct black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Btg2—49 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; few fine spherical prominent black (7.5YR 2.5/1) manganese concretions with diffuse boundaries lining pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Cg—58 to 65 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; very dark gray (10YR 3/1) channel linings and fillings; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron lining pores; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to the base of soil development: 36 to 60 inches

Ap, A, or AB horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3

Chroma—0 to 2
Texture—silty clay loam

Bg or Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam

Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam or clay loam
Content of rock fragments—0 to 2 percent by volume

3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 92 percent
Dissimilar soils: 8 percent

Soils of Minor Extent

Similar soils:
- Soils that have more sand throughout
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have a dark surface soil more than 36 inches thick
- Soils that have more clay in the surface soil and subsoil

Dissimilar soils:
- Soils that are subject to occasional flooding

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Shiloh Series

Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Shiloh silty clay loam, 0 to 2 percent slopes, at an elevation of about 595 feet; Christian County, Illinois; approximately 2,600 feet east and 132 feet south of the northwest corner of sec. 34, T. 16 N., R. 1 W.; USGS Niantic, Illinois, topographic quadrangle; lat. 39 degrees 48 minutes 3 seconds N. and long. 89 degrees 11 minutes 23 seconds W., UTM Zone 16, 312537 Easting, 4407932 Northing, NAD83:

Ap—0 to 7 inches; black (10YR 2.5/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; firm; few very fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions; slightly acid; abrupt smooth boundary.

A—7 to 15 inches; black (N 2.5/) silty clay loam, very dark gray (10YR 3/1) dry; moderate very fine subangular blocky structure; firm; few very fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions; neutral; clear smooth boundary.

BA—15 to 27 inches; black (N 2.5/) silty clay, very dark gray (10YR 3/1) dry; moderate very fine angular blocky structure; firm; few very fine roots; few fine spherical faint black (7.5YR 2.5/1) manganese concretions; neutral; clear smooth boundary.

Bg1—27 to 32 inches; olive gray (5Y 5/2) silty clay; moderate fine subangular blocky structure; firm; few very fine roots; many prominent very dark gray (10YR 3/1) pressure faces on peds; few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bg2—32 to 39 inches; olive gray (5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct dark grayish brown (10YR 4/2) pressure faces on peds; few prominent very dark gray (10YR 3/1) organic coatings lining pores; few fine spherical prominent black (7.5YR 2.5/1) manganese concretions; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; neutral; clear smooth boundary.

Bg3—39 to 52 inches; olive gray (5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; few prominent very dark gray (10YR 3/1) organic coatings lining pores; few fine spherical prominent black (10YR 2/1) manganese concretions; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; neutral; clear smooth boundary.

BCg—52 to 60 inches; olive gray (5Y 5/2) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few prominent very dark gray (10YR 3/1) organic coatings lining pores; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; neutral; clear smooth boundary.

Cg—60 to 80 inches; gray (10YR 6/1) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout; very slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 48 inches
Depth to carbonates: More than 39 inches
Depth to the base of soil development: 40 to 70 inches

Ap or A horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam or silt loam

BA or Bg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 5
Chroma—0 to 2
Texture—silty clay or silty clay loam

BCg or Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

138+—Shiloh silt loam, 0 to 2 percent slopes, overwash

Setting

Landform: Ground moraines
Position on the landform: Toeslopes

Map Unit Composition

Shiloh and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a dark surface soil less than 24 inches thick
- Soils that have a dark surface layer less than 24 inches thick and have a lighter colored subsurface layer

Dissimilar soils:
- The somewhat poorly drained Oconee soils in the slightly higher positions

Properties and Qualities of the Shiloh Soil

Parent material: Slope alluvium over loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 5 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface

Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

138A—Shiloh silty clay loam, 0 to 2 percent slopes

Setting

Landform: Depressions on ground moraines

Map Unit Composition

Shiloh and similar soils: 94 percent
Dissimilar soils: 6 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have a dark surface soil less than 24 inches thick

Dissimilar soils:
- The somewhat poorly drained Oconee soils in the slightly higher positions

Properties and Qualities of the Shiloh Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 1 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Shoals Series

Taxonomic classification: Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts

Typical Pedon

Shoals loam, in an area of Shoals and Terril loams, 1 to 4 percent slopes, rarely flooded, at an elevation of about 520 feet; Montgomery County, Illinois; approximately 1,815 feet west and 650 feet south of the northeast corner of sec. 8, T. 7 N., R. 4 W.; USGS Sorento North, Illinois, topographic quadrangle; lat. 39 degrees 4 minutes 12 seconds N. and long. 89 degrees 33 minutes 15 seconds W., UTM Zone 16, 279021 Easting, 4327651 Northing, NAD83:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many fine roots throughout; moderately acid; abrupt smooth boundary.

A—6 to 14 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; friable; many fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

AB—14 to 19 inches; dark grayish brown (10YR 4/2) loam; moderate medium subangular blocky structure; friable; many fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay films and many distinct dark gray (10YR 4/1) clay films on faces of peds; few fine spherical distinct black (7.5YR 2.5/1) masses of manganese throughout; slightly acid; clear smooth boundary.

Bt1—19 to 40 inches; grayish brown (10YR 5/2) loam; moderate medium subangular blocky structure; friable; common fine roots throughout; few distinct very dark grayish brown (10YR 3/2) organo-clay films and many distinct dark gray (10YR 4/1) clay films on faces of peds; few fine spherical distinct black (7.5YR 2.5/1) masses of manganese and few fine irregular distinct yellowish brown (10YR 5/6) iron concretions throughout; 1 percent mixed gravel; neutral; clear smooth boundary.

Bt2—40 to 52 inches; grayish brown (10YR 5/2) loam; weak medium and coarse subangular blocky structure; friable; few fine roots throughout; few distinct dark gray (10YR 4/1) clay films and common distinct light gray (10YR 7/1) silt coatings on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films along root channels; few fine spherical distinct black (7.5YR 2.5/1) masses of manganese and common fine irregular prominent strong brown (7.5YR 5/6) iron concretions throughout; 1 percent mixed gravel; neutral; gradual smooth boundary.

Bt3—52 to 58 inches; variegated brown (10YR 4/3) and grayish brown (2.5Y 5/2) loam; weak medium and coarse subangular blocky structure; friable; few fine roots throughout; few distinct dark gray (10YR 4/1) clay films and common distinct light gray (10YR 7/1) silt coatings on faces of peds; common distinct very dark grayish brown (10YR 3/2) organo-clay films along root channels; common fine spherical distinct black (7.5YR 2.5/1) masses of manganese and common fine irregular prominent strong brown (7.5YR 5/6) iron concretions throughout; 1 percent mixed gravel; slightly alkaline; gradual smooth boundary.

BCt—58 to 72 inches; brown (10YR 4/3) clay loam; weak coarse prismatic structure; friable; common distinct gray (10YR 5/1) clay films on faces of peds; few fine irregular distinct grayish brown (2.5Y 5/2) iron depletions lining pores and common fine irregular prominent strong brown (7.5YR 5/6) iron concretions throughout; 1 percent mixed gravel; slightly alkaline; gradual smooth boundary.

C—72 to 88 inches; variegated yellowish brown (10YR 5/4) and brown (10YR 4/3) clay loam; massive; firm; few fine irregular distinct gray (2.5Y 6/1) iron depletions lining pores; common fine spherical prominent black (7.5YR 2.5/1) masses of manganese and common fine irregular prominent strong brown (7.5YR 5/6) iron concretions throughout; 1 percent mixed gravel; slightly alkaline.

Range in Characteristics

Depth to the base of soil development: 20 to 72 inches

Ap or A horizon(s):
Hue—10YR
Value—4 or 5; 3 in thin A horizons
Chroma—2 or 3
Texture—loam
Content of rock fragments—0 to 3 percent by volume

AB, Bt, BCt, Bw, or Bg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—loam, sandy loam, clay loam, or sandy clay loam
Content of rock fragments—0 to 3 percent by volume

Cg or C horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—clay loam, loam, or sandy loam
Content of rock fragments—0 to 10 percent by volume

7788B—Shoals and Terril loams, 1 to 4 percent slopes, rarely flooded

Setting

Landform: Hills
Position on the landform: Footslopes (fig. 7)

Map Unit Composition

Shoals and similar soils: 46 percent
Terril and similar soils: 44 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker dark surface soil
- Soils that have more sand throughout
- Soils that have less clay in the underlying material
- Soils that have a seasonal high water table at a depth of more than 6 feet
- Soils that have less sand in the surface soil and in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained, occasionally flooded Radford and Lawson soils in the lower positions

Properties and Qualities of the Shoals Soil

Parent material: Local alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Terril Soil

Parent material: Local alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 4 to 6 feet below the surface
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Shoals—2w; Terril—2e
Prime farmland category: Prime farmland where drained
Hydric soil status: Shoals—not hydric; Terril—not hydric

Tamalco Series

Taxonomic classification: Fine, smectitic, mesic Aquic Natrudalfs

Typical Pedon

Tamalco silt loam, 2 to 5 percent slopes, at an elevation of about 636 feet; Montgomery County, Illinois; approximately 2,300 feet west and 343 feet south of the northeast corner of sec. 26, T. 9 N., R. 4 W.; USGS Butler, Illinois, topographic quadrangle; lat. 39 degrees 12 minutes 8.3 seconds N. and long. 89 degrees 30 minutes 1.8 seconds W.; UTM Zone 16, 284081 Easting, 4342209 Northing, NAD83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many fine roots; 2 percent exchangeable sodium; very strongly acid; abrupt smooth boundary.

E—6 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thin platy structure; friable; many fine roots: few fine prominent reddish brown (2.5YR 4/4) masses of oxidized iron and manganese; 3 percent exchangeable sodium; very strongly acid; abrupt smooth boundary.

Bn/E—9 to 11 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; firm (Bn); many fine roots; many distinct gray (10YR 6/1) clay depletions on faces of peds and as fillings between peds, light gray (10YR 7/1) dry (E); common fine prominent reddish brown (2.5YR 4/4) masses of oxidized iron and manganese throughout; 6 percent exchangeable sodium; very strongly acid; abrupt smooth boundary.

Btn—11 to 17 inches; reddish brown (5YR 4/4) silty clay; moderate medium prismatic structure parting to moderate fine angular blocky; firm; many fine roots: common distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; 10 percent exchangeable sodium; strongly acid; clear smooth boundary.

Btkn—17 to 28 inches; pale brown (10YR 6/3) silty clay loam; weak fine and medium angular blocky structure; firm; common fine roots: common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and as fillings in root channels; few fine faint light brownish gray (10YR 6/2) iron depletions, many fine faint brown (10YR 5/3) masses of oxidized iron and manganese, and few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron throughout; common medium distinct white (10YR 8/1) calcium carbonate concretions throughout; 18 percent exchangeable sodium; strongly effervescent on the concretions; slightly alkaline; clear smooth boundary.

Btkng—28 to 35 inches; gray (10YR 6/1) silt loam; weak coarse angular blocky structure; firm; few fine roots: few distinct grayish brown (10YR 5/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron and few fine prominent black (10YR 2/1) masses of manganese throughout; few medium faint white (10YR 8/1) calcium carbonate concretions throughout; strongly effervescent on the concretions; 26 percent exchangeable sodium; moderately alkaline; clear smooth boundary.

BCng—35 to 42 inches; light brownish gray (10YR 6/2) silt loam; weak coarse subangular blocky structure; friable; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron and few fine prominent black (10YR 2/1) masses of manganese throughout; 24 percent exchangeable sodium; moderately alkaline; gradual smooth boundary.

2Cng—42 to 54 inches; grayish brown (10YR 5/2) silt loam; massive; friable; many medium distinct dark brown (7.5YR 4/4) masses of oxidized iron and manganese; few fine distinct black (10YR 2/1) masses of manganese throughout; 18 percent exchangeable sodium; moderately alkaline; gradual smooth boundary.

3Cn1—54 to 60 inches; dark brown (7.5YR 4/4) silt loam; massive; friable; common medium distinct dark grayish brown (10YR 4/2) iron depletions and few fine prominent black (10YR 2/1) masses of manganese throughout; 13 percent exchangeable sodium; 1 percent gravel; moderately alkaline; gradual smooth boundary.

3Cn2—60 to 75 inches; dark brown (7.5YR 4/4) silt loam; massive; friable; few fine prominent black (10YR 2/1) masses of manganese throughout; 9 percent exchangeable sodium; 1 percent gravel; slightly alkaline; clear smooth boundary.

3C—75 to 84 inches; dark brown (7.5YR 4/4) loam; massive; friable; 5 percent exchangeable sodium; 1 percent gravel; slightly alkaline.

Range in Characteristics

Thickness of the loess: More than 30 inches
Depth to the base of soil development: 36 to 60 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam

Bn/E, BE, or B/E horizon(s) (where present):
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam

Btn horizon(s) (upper part):
Hue—5YR or 7.5YR; less commonly 10YR
Value—4 or 5
Chroma—typically 4; ranges from 3 to 6
Texture—silty clay or silty clay loam

Btkn, Btng, Btkng, or lower part of Btn horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silt loam

BCn or BCng horizon(s) (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silt loam or silty clay loam

Cn or Cng horizon(s) (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam

2BCn or 2BCng horizon(s) (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam, clay loam, silt loam, or loam
Content of rock fragments—0 to 5 percent

2Cng or 2Cn horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam, silt loam, loam, or clay loam
Content of rock fragments—0 to 5 percent by volume

3C, 3Cn, or 3Cng horizon(s) (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam, clay loam, silt loam, or loam
Content of rock fragments—1 to 15 percent

581B—Tamalco silt loam, 2 to 5 percent slopes

Setting

Landform: Knolls on ground moraines
Position on the landform: Summits and shoulders (fig. 5)

Map Unit Composition

Tamalco and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that do not have red in the upper part of the subsoil and that contain less clay in the upper part of the subsoil
- Soils that have a concentration of exchangeable sodium below a depth of 30 inches
- Soils that have a thinner surface soil

Dissimilar soils:
- The somewhat poorly drained Oconee and Hoyleton soils, which do not contain a concentration of exchangeable sodium in the subsoil; in the slightly lower positions

Properties and Qualities of the Tamalco Soil

Parent material: Loess
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 9 to 15 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table: 1.4 to 3.0 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

581B2—Tamalco silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Knolls on ground moraines
Position on the landform: Shoulders (fig. 5)

Map Unit Composition

Tamalco and similar soils: 85 percent
Dissimilar soils: 15 percent

Soils of Minor Extent

Similar soils:
- Soils that do not have red in the upper part of the subsoil and that contain less clay in the upper part of the subsoil
- Soils that have a concentration of exchangeable sodium below a depth of 30 inches
- Soils that have a thicker surface soil

Dissimilar soils:
- The somewhat poorly drained Oconee and Hoyleton soils, which do not contain a concentration of exchangeable sodium in the subsoil; in the slightly lower positions

Properties and Qualities of the Tamalco Soil

Parent material: Loess
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 9 to 15 inches to a natric horizon (high sodium content within a depth of 30 inches)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: High
Perched seasonal high water table: 1.4 to 3.0 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Terril Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Taxadjunct features: The Terril soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-loamy, mixed, superactive, mesic Typic Hapludolls.

Typical Pedon

Terril loam, in an area of Shoals and Terril loams, 1 to 4 percent slopes, rarely flooded, at an elevation of 535 feet; Montgomery County, Illinois; approximately 2,609 feet west and 636 feet north of the southeast corner of sec. 5, T. 7 N., R. 4 W.; USGS Sorento North, Illinois, topographic quadrangle; lat. 39 degrees 4 minutes 24 seconds N. and long. 89 degrees 33 minutes 26 seconds W., UTM Zone 16, 278792 Easting, 4328035 Northing, NAD83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many fine roots throughout; strongly acid; abrupt smooth boundary.
A—6 to 12 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; friable; many fine roots throughout; strongly acid; clear smooth boundary.
Bw1—12 to 18 inches; 90 percent brown (10YR 4/3) and 10 percent dark yellowish brown (10YR 4/4) loam; weak fine prismatic structure parting to moderate medium subangular blocky; friable; many fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine

spherical distinct black (10YR 2/1) masses of manganese throughout; 1 percent mixed rock fragments; slightly acid; clear smooth boundary.

Bw2—18 to 28 inches; 90 percent brown (10YR 4/3) and 10 percent dark yellowish brown (10YR 4/4) sandy clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; friable; many fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; 2 percent mixed gravel; neutral; clear smooth boundary.

Bw3—28 to 36 inches; brown (10YR 4/3) loam; moderate medium subangular blocky structure; friable; common fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; 1 percent mixed gravel; neutral; clear smooth boundary.

Bw4—36 to 56 inches; 90 percent brown (10YR 4/3) and 10 percent dark yellowish brown (10YR 4/4) loam; moderate coarse subangular blocky structure; friable; few fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine spherical distinct black (10YR 2/1) masses of manganese throughout; 1 percent mixed gravel; neutral; clear smooth boundary.

BC—56 to 81 inches; 90 percent brown (10YR 4/3) and 10 percent dark yellowish brown (10YR 4/4) sandy clay loam; weak coarse subangular blocky structure; friable; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine irregular faint dark grayish brown (2.5Y 4/2) iron depletions and few fine spherical distinct black (10YR 2/1) masses of manganese throughout; 1 percent mixed gravel; neutral; clear smooth boundary.

C—81 to 92 inches; brown (10YR 4/3) loam; massive; friable; few fine irregular faint dark grayish brown (2.5Y 4/2) iron depletions and few fine spherical distinct black (10YR 2/1) masses of manganese throughout; 1 percent mixed gravel; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 19 inches
Depth to carbonates: More than 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—loam
Content of rock fragments—0 to 5 percent by volume

Bw and BC horizon(s):
Hue—10YR or 2.5Y
Chroma—3 or 4
Value—3 or 4
Texture—loam, clay loam, or sandy clay loam
Content of rock fragments—0 to 5 percent by volume

C horizon(s):
Hue—10YR or 2.5Y
Chroma—4 or 5
Value—3 or 4
Texture—loam or clay loam
Content of rock fragments—0 to 5 percent by volume

7788B—Shoals and Terril loams, 1 to 4 percent slopes, rarely flooded

Setting

Landform: Hills
Position on the landform: Footslopes (fig. 7)

Map Unit Composition

Shoals and similar soils: 46 percent
Terril and similar soils: 44 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a thicker dark surface soil
- Soils that have more sand throughout
- Soils that have less clay in the underlying material
- Soils that have a seasonal high water table at a depth of more than 6 feet
- Soils that have less sand in the surface soil and in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained, occasionally flooded Radford and Lawson soils in the lower positions

Properties and Qualities of the Shoals Soil

Parent material: Local alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Terril Soil

Parent material: Local alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 4 to 6 feet below the surface
Frequency and most likely period of flooding: Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Shoals—2w; Terril—2e
Prime farmland category: Prime farmland where drained
Hydric soil status: Shoals—not hydric; Terril—not hydric

533—Urban land

Setting

- This map unit consists of areas covered by parking lots, streets, buildings, and other structures.

Map Unit Composition

Urban land: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The well drained, loamy Orthents in open areas
- The somewhat poorly drained Herrick, Oconee, Darmstadt, and Coulterville soils in undisturbed areas

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Virden Series

Taxonomic classification: Fine, smectitic, mesic Vertic Argiaquolls

Typical Pedon

Virden silty clay loam, 0 to 2 percent slopes, at an elevation of 699 feet; Adams County, Illinois; approximately 140 feet west and 54 feet north of the southeast corner of sec. 3, T. 2 N., R. 6 W.; USGS Bowen, Illinois, topographic quadrangle; lat. 40 degrees 10 minutes 49 seconds N. and long. 91 degrees 4 minutes 0 seconds W., UTM Zone 15, 664587 Easting, 4449564 Northing, NAD83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; firm; slightly alkaline; abrupt smooth boundary.

A—8 to 16 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; firm; moderately acid; clear smooth boundary.

Btg1—16 to 23 inches; very dark gray (10YR 3/1) silty clay, grayish brown (10YR 5/2) dry; strong fine angular blocky structure; firm; few distinct black (10YR 2/1) organo-clay films on faces of peds; few fine faint black (10YR 2/1) manganese concretions throughout; slightly acid; clear smooth boundary.

Btg2—23 to 34 inches; gray (5Y 5/1) silty clay loam; weak coarse prismatic structure parting to moderate medium angular blocky; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent brownish yellow (10YR

6/6) masses of oxidized iron and few fine prominent black (10YR 2/1) masses of manganese throughout; slightly acid; clear smooth boundary.

Btg3—34 to 42 inches; gray (5Y 5/1) silty clay loam; weak and moderate coarse prismatic structure parting to moderate coarse angular blocky; firm; few distinct dark gray (5Y 4/1) clay films on faces of peds; common medium prominent light olive brown (2.5Y 5/6) masses of oxidized iron and few fine prominent black (10YR 2/1) masses of manganese throughout; neutral; clear smooth boundary.

Btg4—42 to 49 inches; gray (5Y 5/1) silty clay loam; moderate coarse prismatic structure parting to weak coarse angular blocky; firm; very few distinct dark gray (N 4/) clay films on faces of peds; many medium prominent olive brown (2.5Y 4/4) masses of oxidized iron and manganese throughout; neutral; gradual smooth boundary.

Cg—49 to 60 inches; gray (5Y 5/1) silty clay loam; massive; firm; common medium prominent olive brown (2.5Y 4/4) masses of oxidized iron and manganese throughout; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to the base of soil development: 40 to 60 inches
Depth to carbonates (where present): More than 50 inches

Ap or A horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—2 to 3
Chroma—1 or 2
Texture—silty clay loam or silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 4
Texture—silty clay loam, silty clay, or silt loam

Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 4
Texture—silty clay loam or silt loam

50A—Virden silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 6, fig. 8)

Map Unit Composition

Virden and similar soils: 92 percent
Dissimilar soils: 8 percent

Soils of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have a thicker dark surface soil
- Soils that have a thinner dark surface soil

- Soils that have less clay in the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have more sand in the lower part of the subsoil and in the underlying material

Dissimilar soils:

- The moderately well drained Harrison soils in the slightly higher positions
- The poorly drained Piasa soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Virden soil

Properties and Qualities of the Virden Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

885A—Virden-Fosterburg silt loams, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 5, fig. 6)

Map Unit Composition

Virden and similar soils: 50 percent
Fosterburg and similar soils: 40 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:

- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the surface soil
- Soils in which the dark surface soil is more than 24 inches thick
- Soils that have a seasonal high water table at a depth of more than 1 foot

Dissimilar soils:
- The poorly drained Piasa soils, which contain a high concentration of exchangeable sodium in the subsoil; in landform positions similar to those of the Virden and Fosterburg soils

Properties and Qualities of the Virden Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Fosterburg Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches; moderate sodium content within a depth of 30 inches
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Virden—2w; Fosterburg—3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Virden—hydric; Fosterburg—hydric

W—Water

- This map unit consists of rivers, streams, lakes, reservoirs, and ponds. These areas are covered with water in most years, at least during the period that is warm enough for the growth of plants. Many areas are covered throughout the year.

Wynoose Series

Taxonomic classification: Fine, smectitic, mesic Typic Albaqualfs

Typical Pedon

Wynoose silt loam, 0 to 2 percent slopes, at an elevation of 455 feet; Wayne County, Illinois; approximately 967 feet west and 2,458 feet north of the southeast corner of sec. 10, T. 1 N., R. 8 E.; USGS Enterprise, Illinois, topographic quadrangle; lat. 38 degrees 31 minutes 57.4 seconds N. and long. 88 degrees 17 minutes 50.3 seconds W., UTM Zone 16, 386926 Easting, 4265710 Northing, NAD83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; common very fine roots throughout; common fine distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; few fine spherical masses of oxidized iron and manganese throughout; neutral; abrupt smooth boundary.

Eg1—7 to 14 inches; light brownish gray (10YR 6/2) silt loam, white (2.5Y 8/1) dry; moderate medium platy structure; friable; few very fine roots throughout; common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; common fine prominent strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine spherical masses of oxidized iron and manganese throughout; strongly acid; clear smooth boundary.

Eg2—14 to 20 inches; light brownish gray (10YR 6/2) silt loam, white (2.5Y 8/1) dry; moderate medium platy structure; friable; few very fine roots throughout; common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine spherical masses of oxidized iron and manganese and few fine irregular iron-manganese concretions throughout; very strongly acid; abrupt smooth boundary.

Btg1—20 to 29 inches; light brownish gray (10YR 6/2) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine roots along faces of peds; many distinct gray (10YR 5/1) clay films and common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; many fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine spherical masses of oxidized iron and manganese and common fine and medium irregular iron-manganese concretions throughout; very strongly acid; clear smooth boundary.

Btg2—29 to 36 inches; light brownish gray (10YR 6/2) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine roots along faces of peds; common distinct gray (10YR 5/1) clay films and few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; many fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine spherical masses of oxidized iron and manganese and few fine irregular iron-manganese concretions throughout; very strongly acid; clear smooth boundary.

2Btg3—36 to 48 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots along faces of peds; few distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; common fine and medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine spherical masses of oxidized iron and manganese and few fine irregular iron-manganese concretions throughout; about 2 percent angular gravel by volume; strongly acid; clear smooth boundary.

2Btg4—48 to 66 inches; gray (10YR 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots along faces of peds; few distinct gray (10YR 5/1) clay films on faces of peds and

few distinct dark grayish brown (10YR 4/2) clay films in root channels and pores; common fine and medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine irregular iron-manganese concretions throughout; about 2 percent angular gravel by volume; strongly acid; clear smooth boundary.

3Btgb—66 to 80 inches; gray (10YR 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm; common distinct gray (10YR 5/1) clay films on faces of peds and common prominent black (N 2.5/) manganese coatings on faces of peds; common fine and medium prominent strong brown (7.5YR 5/6 and 5/8) masses of oxidized iron in the matrix; common medium irregular iron-manganese concretions throughout; about 5 percent angular gravel by volume; moderately acid.

Range in Characteristics

Thickness of the loess: 30 to 55 inches
Depth to the base of soil development: More than 40 inches

Ap or A horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay

2Btg or 2BCg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 5 percent by volume

3Agb and/or 3Btgb horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam, silty clay loam, or clay loam
Content of rock fragments—0 to 10 percent by volume

12A—Wynoose silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs

Map Unit Composition

Wynoose and similar soils: 90 percent
Dissimilar soils: 10 percent

Soils of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have less sand in the lower part of the subsoil
- Soils that have more brown in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Darmstadt soils, which contain a high concentration of exchangeable sodium in the subsoil; in the slightly higher positions
- The poorly drained Huey soils, which contain a high concentration of exchangeable sodium in the subsoil; in depressions

Properties and Qualities of the Wynoose Soil

Parent material: Loess over mixed loess and drift over paleo accretionary deposits
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 13 to 30 inches to abrupt textural change
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Soil Series and Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2002, a total of 327,091 acres in Montgomery County was cropland (USDA, 2002). The major row crops are corn and soybeans. Wheat is the major small grain crop grown. The soils in Montgomery County have good potential for continued crop production, especially if the latest crop production technology is applied.

Limitations Affecting Cropland and Pastureland

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 6.

Cropland

The main concerns affecting the management of cropland in Montgomery County include crusting, water erosion, and wetness. Other concerns include excess sodium, flooding, high pH, low pH, ponding, and poor tilth.

Crusting occurs when flowing water or raindrops break down soil structural units, moving clay downward and leaving a concentration of sand and silt particles on the soil surface. Crusts can reduce water infiltration, increase runoff, inhibit seedling emergence and proper growth, and reduce oxygen diffusion to seedlings. Practices that help to minimize surface crusting and improve tilth are those that protect the surface from the impact of raindrops and from flowing water. Incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage help to prevent crusting and improve tilth.

Water erosion reduces the stability of soil aggregates and thus reduces the rate of water infiltration and increases the rate of surface runoff. Soils with long or steep slopes are particularly susceptible to water erosion. Sheet and rill erosion is a hazard in areas where slopes are long or are subject to concentrated flow. It removes the surface soil, which commonly has the highest amount of biological activity and the highest content of organic matter. As a result, the productivity of the soil is reduced. Poor tilth and crusting can occur when the subsoil, which generally has a higher content of clay than the surface soil, is incorporated through tillage into the plow layer. Excessive runoff reduces the quality of surface water through sedimentation and contamination by agricultural chemicals attached to soil particles in the sediment. Sediment then enters streams, rivers, water impoundments, and road ditches and

reduces the quality of surface water. Erosion can be controlled by a conservation tillage system that leaves crop residue on the surface after planting (fig. 9) or by a cropping system that rotates grasses and legumes in the cropping sequence. On soils with long, uniform slopes, contour farming and/or terraces in combination with a conservation tillage system can help to control erosion.

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. In soils that have restricted permeability and a high content of clay, subsurface drainage may not be practical. In areas of these soils, surface ditches may reduce the wetness. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Excess sodium occurs in soils that have a high content of sodium in the subsoil. The sodium flocculates soil structure. The high sodium concentration and poor physical makeup of these soils restrict the penetration of plant roots and limit the availability of water and thus cause moisture stress late in the growing season. These soils also have excess moisture during wet periods. The condition of these soils limits the availability and uptake of some plant nutrients. The soils tend to have low porosity and a low rate of water infiltration. Applying a conservation tillage system that leaves crop residue on the surface after planting and regularly adding other organic material improve fertility and increase the rate of water infiltration.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Levees or diversions reduce the extent of crop damage caused by floodwater. Surface drainage ditches can be used to improve drainage if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting crop varieties adapted to a shorter growing season and wetter conditions can help to minimize the extent of damage caused by flooding.

High pH refers to a pH of 7.4 or more. This limitation affects the availability of many plant nutrients and influences the effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances.

Figure 9.—Crop residue management helps to control erosion in cropland areas.

Crops may respond well to additions of phosphate fertilizer on these soils. The applications of herbicides should be adjusted as the level of alkalinity increases. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

Low pH refers to a pH of less than 4.5. This limitation can reduce the solubility and availability of plant nutrients. Applying lime according to the results of soil tests helps to overcome this limitation.

Ponding occurs when the seasonal high water table is above the surface of the soil. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Poor tilth can occur in soils because of erosion, when part of the subsoil is incorporated into the plow layer. The erosion reduces the content of organic matter and increases the clay content in the surface soil. Intensive rainfall often results in the formation of a crust on the surface. Poor tilth also occurs in poorly drained soils that have a high clay content, regardless of organic matter content, and in soils that have been excessively tilled. Poor tilth reduces the rate of water infiltration and increases the runoff rate and the susceptibility to erosion on the more sloping soils. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because these soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. Minimizing tillage and timing conservation tillage operations to near optimal soil moisture conditions can improve tilth. Regularly returning crop residue to the soil and adding other organic material can also improve tilth.

The following paragraphs provide explanations of the criteria used to determine the limitations or hazards.

Crusting.—The average content of organic matter in the surface layer is 2.5 percent or less, and the content of clay is between 20 and 35 percent.

Excess sodium.—The upper limit of the sodium adsorption ratio is more than 12 within a depth of 30 inches.

Flooding.—The soil is subject to occasional or frequent flooding.

High pH.—The lower limit of pH within a depth of 40 inches is 7.4 or more.

Low pH.—The lower limit of pH within a depth of 40 inches is less than 4.5.

Ponding.—The upper limit of the ponding depth is greater than 0 inches.

Poor tilth.—The content of clay in the surface layer is 27 percent or more.

Water erosion.—The Kw factor in the surface layer multiplied by the average slope is 0.8 or more, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet at some time during the growing season in normal years.

Erosion factors (for example, the Kw factor) are described under the heading “Physical Properties.”

Pastureland

The main management concerns affecting pastureland in Montgomery County are low pH, water erosion, and wetness. Other concerns include equipment limitations, excess lime, excess sodium, flooding (fig. 10), frost heave, high pH, low fertility, ponding, and poor tilth.

Low pH refers to a pH of 5.5 or less. This limitation can reduce the solubility and availability of nutrients for plant growth. Selecting adapted forage and hay varieties and applying lime according to the results of soil tests can help to overcome this limitation.

Water erosion can occur in overgrazed areas or during pasture establishment and renovation if the surface is not protected against the impact of raindrops. Erosion results in poor tilth, which reduces the rate of water infiltration and increases the

Figure 10.—Pastureland in an area of the frequently flooded Lawson soils.

runoff rate. Soils with long or steep slopes are particularly susceptible to water erosion. Erosion can be controlled by deferring grazing, which prevents overgrazing and thus also helps to prevent surface compaction and excessive runoff and erosion. Tilling on the contour, using a no-till system of seeding when a seedbed is prepared or the pasture is renovated, and selecting adapted forage and hay varieties also help to control erosion.

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Equipment limitations occur in areas that have slopes of more than 18 percent. These limitations can cause rapid wear of equipment. They can also present problems with fertilization, harvest, pasture renovation, and seedbed preparation. They cannot be easily overcome.

Excess lime occurs in soils that contain a high content of calcium carbonate at or near the surface or in the upper part of the subsoil. This limitation affects the availability of many plant nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.

Excess sodium occurs in soils that have a high content of sodium in the subsoil. The sodium flocculates soil structure. The high sodium concentration and poor physical makeup of these soils restrict the penetration of plant roots and limit the

availability of water and thus cause moisture stress late in the growing season. These soils also have excess moisture during wet periods. The condition of these soils limits the availability and uptake of some plant nutrients. The soils tend to have low porosity and a low rate of water infiltration. Selecting forage and hay varieties adapted to the high sodium content can improve forage production.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Surface drainage ditches help to remove floodwater if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to a shorter growing season and wetter conditions can also minimize the damage caused by flooding. Restricted use during wet periods helps to keep the pasture in good condition.

Frost heave occurs when ice lenses or bands develop in the soil and drive an ice wedge between two layers of soil near the surface layer. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils in which the texture is low in sand have small pores that hold water and enable ice lenses to form. Selecting adapted forage and hay varieties can reduce the effects of frost heave. Timely deferment of grazing helps to maintain a vegetative cover on the surface. The vegetative cover insulates the soil and thus reduces the effects of frost heave.

High pH refers to a pH of 7.4 or more. This limitation affects the availability of many nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties also helps to overcome this limitation.

Low fertility occurs in soils that have a low content of organic matter and a low cation-exchange capacity. The capacity of the soil to retain nutrients for plant use is limited. Frequent applications of small amounts of fertilizer help to prevent excessive loss of plant nutrients through leaching. Using legumes as part of a seeding mixture can provide nitrogen to the grass varieties. Timely deferment of grazing helps to maintain a cover of vegetation on the surface and thus helps to maintain the content of organic matter. Organic matter is a source of nutrients in the soil.

Ponding occurs when the seasonal high water table is above the surface of the soil. Land grading helps to control ponding. Surface ditches and surface inlet tile can also be used to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Poor tilth can occur in soils because of erosion, when part of the subsoil is incorporated into the plow layer. The erosion reduces the content of organic matter and increases the clay content in the surface soil. Intensive rainfall often results in the formation of a crust on the surface. Poor tilth also occurs in poorly drained soils that have a high clay content, regardless of organic matter content, and in soils that have been excessively tilled. Poor tilth reduces the rate of water infiltration and increases the runoff rate and the susceptibility to erosion on the more sloping soils. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because these soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. Minimizing tillage and timing conservation tillage operations to near optimal soil moisture conditions during pasture establishment or pasture renovation can improve tilth.

The following paragraphs provide explanations of the criteria used to determine the limitations or hazards.

Equipment limitation.—The slope is more than 18 percent.

Excess lime.—The upper limit of the calcium carbonate equivalent is 15 percent or more within a depth of 20 inches.

Excess sodium.—The upper limit of the sodium adsorption ratio is more than 12 within a depth of 30 inches.

Flooding.—The soil is subject to occasional or frequent flooding.

Frost heave.—The potential for frost action is moderate or high, and the soil is poorly drained or very poorly drained.

High pH.—The lower limit of pH within a depth of 40 inches is 7.4 or more.

Low fertility.—The average content of organic matter in the surface layer is less than 1 percent, or the average cation-exchange capacity (CEC) is less than 7.

Low pH.—The lower limit of pH within a depth of 40 inches is 5.5 or less.

Ponding.—The upper limit of the ponding depth is greater than 0 inches.

Poor tilth.—The content of clay in the surface layer is 27 percent or more.

Water erosion.—The Kw factor in the surface layer multiplied by the average slope is more than 1.0, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet.

Erosion factors (for example, the Kw factor) are described under the heading "Physical Properties."

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents (Olson and Lang, 2000; Olson and others, 2000). Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Yields for grass-legume pasture under an average level of management also are shown in table 7. Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and pasture renovation also are important management practices.

The estimated yields in the table reflect the productive capacity of each soil for each of the principal crops and pasture plants. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, or wildlife habitat.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section “Soil Series and Detailed Soil Map Units” and in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

About 362,248 acres in the survey area, or about 80 percent of the total acreage, meets the soil requirements for prime farmland.

The map units in the survey area that are considered prime farmland are listed in table 8. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. Some of the soil qualities that affect use and management are described under the heading “Soil Series and Detailed Soil Map Units.”

Hydric Soils

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2006) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. The depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 9 lists the map units that include hydric soils, either as major components or as inclusions. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
      2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
      3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.

4. Soils that are frequently flooded for long or very long duration during the growing season.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

Forestland Management and Productivity

When the survey area was first settled, forestland covered approximately 96,500 acres, or about 22 percent of the total acreage (Bretthauer and Edgington, 2002). As the population of the county increased, the woodland eventually was cleared for farming. Today, woodland makes up approximately 13 percent of the total acreage, or about 61,090 acres (Illinois Department of Agriculture, 2001). The majority of the woodland is in relatively small, privately owned woodlots.

The forestland is mainly in sloping areas, in the narrower bottom-land areas, and in strips along creeks (fig. 11). Originally, these areas were heavily if not entirely forested, but the flatter areas were converted to agriculture long ago. Adjoining the slopes were areas of forest that transitioned into prairie, gradually in some places (savannah sites) and abruptly in others. These areas have also, for the most part, been converted to agriculture, although some forested areas remain in a few places. Overall, Montgomery County is a mixture of forest and prairie. The northern part of the county borders the”Grand Prairie” (Schwegman, 1973).

By far, the bulk of forestland in Montgomery County is in areas of Hickory soils. Some forested areas extend into adjoining areas of Atlas, Ava, Bluford, Bunkum, Homen, Marine, Negley, and Pike soils. Upland tree species are sensitive to differences in soils. Some species are adapted to certain sites but are only marginally adapted or are not adapted at all to other sites. A broad listing of species would include red chinkapin oak, white chinkapin oak, black chinkapin oak, bur oak, hickory, walnut, elm, ash, and hackberry. Ash species are seriously affected by the emerald ash borer. Hard maple is making strong incursions onto many of the shadier, moist slopes traditionally occupied by red oak. American elm is ubiquitous in the understory but rarely occurs as a larger tree.

The forest sites on the flood plains in the county occur as remnants of original stands and as regeneration areas. Where fields have been abandoned, the sites can be seeded rather readily. Lawson soils are the most common forest-associated soils on these sites, but Radford, Sawmill, Shoals, and Terril and certain other soils also occur on these sites. Soft maple is ubiquitous, but common associates include

Figure 11.—Areas of the strongly sloping to very steep Hickory soils on wooded slopes. The frequently flooded Lawson soils are in the cropland areas.

cottonwood, green ash, and sycamore. Some sites in which the soils have better internal drainage support walnut, hackberry, bitternut hickory, and associated other bottom-land species. Boxelder, which is fairly widespread, is generally considered a "weed species."

Much of the forestland can be improved by harvesting mature trees and by removing the nonmerchantable trees that retard the growth of desirable species. Protecting the woodland from fire, excluding livestock from the woodland, and controlling disease and insects increase productivity. Tree planting is needed unless stocking is adequate. Control of competing vegetation is needed if seedlings are planted. Seeding non-sodforming grass or grass-legume mixtures between rows of the planted seedlings helps to control erosion. If erosion is excessive or the slope is more than 10 percent, runoff should be diverted away from haul roads and skid trails. Machinery should be used only when the soil is firm enough to support the weight of the machinery.

Forestland Management

In tables 11a through 11e, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the

unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://soils.usda.gov/technical/).

Table 11a

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Table 11b

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A

rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Table 11c

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Table 11d

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Table 11e

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Forestland Productivity

In table 12, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://soils.usda.gov/technical/).

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Suggested trees to plant are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreational Development

Information in this section was taken from the Montgomery County Government Web site (http://www.montgomeryco.com/news/23-2.html).

Montgomery County provides opportunities for many year-round recreational activities, including hunting, fishing and boating, camping, outdoor music festivals, and golfing. Nature and wildlife preserves also are available for outdoor activities.

The county has four lakes, which provide facilities for fishing, boating, and camping. These are Lake Hillsboro, Lake Glenn Shoals (fig. 12), Lake Lou Yaeger, and Coffeen Lake.

Montgomery County has two major biking and hiking trails. The Green Diamond Trail is currently 5.5 miles in length and runs between the communities of Farmersville and Waggoner. The Lake Lou Yaeger Hike/Bike Trail is currently 1.15 miles in length and offers many scenic views of the Lake Lou Yaeger area.

The H & B Bremer Wildlife Sanctuary and the Shoal Creek Nature Preserve provide opportunities for viewing plant and animal communities.

In tables 13a and 13b, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited*

Figure 12.—Lake Glenn Shoals provides recreational opportunities in Montgomery County.

indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting

the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Ken Boyles, district wildlife biologist, Illinois Department of Natural Resources, helped prepare this section.

The kinds and abundance of wildlife in Montgomery County reflect the soil types, land use, and vegetation. About 78 percent of the soils in the county developed under native plant communities dominated by tall prairie grasses and oak savannah. Wildlife that was formerly abundant in this prairie habitat included prairie chickens, grassland birds, and mammals. The native woodland habitat originally covered about 22 percent of the county (Bretthauer and Edgington, 2002). After the county was settled, drainage systems were installed, trees were cleared, and the acreage of cultivated crops increased rapidly. These changes altered the wildlife communities, favoring the more adaptable species and those more tolerant of human settlements, such as horned lark, cardinal, mourning dove, raccoon, and white-tailed deer.

Areas used as wildlife habitat are not necessarily set aside for this purpose. Many of the nearly level to strongly sloping soils used for crops and pasture in Montgomery County generally are well suited to habitat for openland wildlife species, such as rabbits, pheasant, bobwhite quail, red fox, and meadowlark. Habitat for woodland wildlife generally is in areas of soils that are too steep for cultivation, in small dissected areas along streams, and in areas of soils that are not suitable for farming because of poor drainage. These wooded areas provide habitat for squirrel, opossum, gray fox, raccoon, turkey, white-tailed deer, and woodcock. Habitat for wetland wildlife consists of open, marshy areas of shallow water. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, frogs, turtles, and snakes.

Good management can improve the habitat for wildlife. Leaving crop residue on the surface during fall and winter, for example, not only helps to control erosion but also greatly improves the habitat for openland wildlife. Deferring the mowing of

grassed waterways, roadsides, and fence rows until early August, after the nesting season, can significantly increase the annual production of pheasants, meadowlarks, rabbits, and other wildlife species that nest on the ground. Measures that exclude livestock from woodland, wetland, and streambanks can markedly improve wildlife habitat.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 14, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Examples are corn, soybeans, wheat, and oats. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Selection should be made from a list of locally adapted species.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Examples are bromegrass, timothy, orchardgrass, clover, and alfalfa. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Examples are bluestems, indiangrass, goldenrod, beggarweed, partridge pea, prairie dock, and compass plant. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Examples are oak, wild black cherry, crabapple, hawthorn, hickory, blackberry, walnut, and willow. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are American plum, elderberry, hazelnut, dogwood, and arrowwood. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Coniferous plants are cone-bearing trees, shrubs, or ground cover that provides habitat or supplies food in the form of browse, seed, or fruit-like cones. Examples are pine, spruce, cedar, juniper, and fir. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include ring-necked pheasant, bobwhite quail, meadowlark, field sparrow, cottontail rabbit, dickcissel, coyote, badger, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, owls, tree squirrels, raccoon, woodcock, and white-tailed deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface,

soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of sand, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 15a and 15b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect

the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 16a and 16b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates

that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture,

stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 17a and 17b give information about the soils as potential sources of sand, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand occurs as natural aggregates suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In table 17a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand, the soil is considered a likely source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 17b, the soils are rated as *good, fair,* or *poor* sources of roadfill and topsoil. The features that limit the soils as sources of roadfill and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of roadfill and topsoil. The lower the number, the greater the limitation.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 18a, 18b, and 18c give information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; grassed waterways and surface drains; terraces and diversions; tile drains and underground outlets; and sprinkler irrigation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Table 18a

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, stability of excavated walls, and quality of the

water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 18b

Grassed waterways and surface drains are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Tile drains and underground outlets are used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to undisturbed soils that commonly have a seasonal high water table within a depth of about 3.0 feet. Current land use is not considered in the ratings. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains. Limitations affecting areas where the tile line passes through soils in which the water table is generally below a depth of 3.0 feet are provided in the table that includes the column “shallow excavations,” which is described under the heading “Building Site Development.”

Table 18c

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The table shows ratings for *sprinkler irrigation*, in which water is sprayed over the soil surface through pipes or nozzles from a pressure system.

The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, ponding, available water capacity, intake rate, permeability, erosion hazard, texture of the surface layer, and slope. The construction of a system is affected by large stones and depth to bedrock or a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 19 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 13). “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

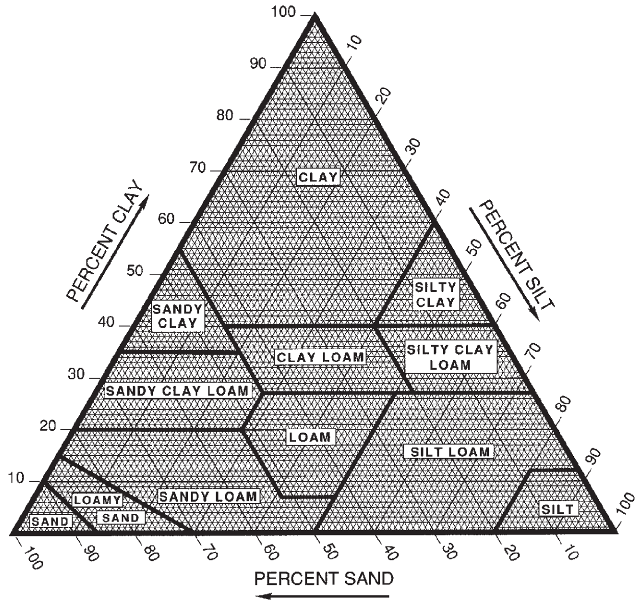


Figure 13.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 20 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as

percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 20, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factors are shown in table 20 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (http://soils.usda.gov/technical/).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 21 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of

fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of exchangeable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 22 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Water table refers to a saturated zone in the soil. Table 22 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months* in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

The table also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level

at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 22 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* of flooding are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 23 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are abrupt textural change, bedrock, cemented layers, dense layers, and natric horizons. The table indicates the *thickness* and *hardness* of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top*

is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Bretthauer, S., and J. Edgington. 2002. Forest resources of Illinois 2002. Illinois Forestry Development Council, Illinois Department of Natural Resources and Environmental Sciences. University of Illinois, Urbana-Champaign.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Downey, C.E., and R.T. Odell. 1969. Soil survey of Montgomery County, Illinois. United States Department of Agriculture, Soil Conservation Service, in cooperation with the Illinois Agricultural Experiment Station.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Fehrenbacher, J.B., I.J. Jansen, and K.R. Olson. 1986. Loess thickness and its effect on soils in Illinois. U.S. Department of Agriculture Bulletin 782.

Hudson, Berman D. 1992. The soil survey as paradigm-based science. Soil Science Society of America Journal, volume 56, number 3, pages 836-41.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Illinois Department of Agriculture. 2001. Land cover of Illinois 1999-2000.

Leighton, M.N., G.E. Ekblaw, and L. Horberg. 1948. Physiographic divisions of Illinois. Illinois State Geological Survey Report of Investigations No. 129.

Melhorn, W.N., and J.P. Kempton. 1991. Geology and hydrogeology of the Teays-Mahomet bedrock valley system. Geological Society of America, Special Paper 258.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Olson, K.R., and J.M. Lang. 2000. Optimum crop productivity ratings for Illinois soils. University of Illinois, College of Agricultural, Consumer and Environmental Sciences. Bulletin 811.

Olson, K.R., J.M. Lang, J.D. Garcia-Paredes, R.N. Majchrzak, C.I. Hadley, M.E. Woolery, and R.M. Rejesus. 2000. Average crop, pasture, and forestry productivity ratings for Illinois soils. University of Illinois, College of Agricultural, Consumer and Environmental Sciences. Bulletin 810.

Schwegman, J.E. 1973 (reprinted 1984). Comprehensive plan for the Illinois nature preserves system, part 2, the natural divisions of Illinois. Illinois Department of Natural Resources.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://soils.usda.gov/technical/

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture. 1961. Land capability classification. Soil Conservation Service. U.S. Department of Agriculture Handbook 210.

United States Department of Agriculture. 2002. Census of agriculture, volume 1, chapter 2, Illinois county level data; table 1, county summary highlights.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://soils.usda.gov/technical/

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://soils.usda.gov/technical/

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://soils.usda.gov/

United States Department of Commerce, Bureau of the Census. 2000. Census 2000 summary file 4 (SF4)—Sample data, DP-1, profile of general demographic characteristics: 2000, Montgomery County, Illinois.

Willman, H.B., and J.C. Frye. 1970. Pleistocene stratigraphy of Illinois. Illinois Geological Survey Bulletin 94.

Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal till. Compact till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Calcium carbonate. A common mineral in sediments and soils.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence of soils across a landscape that are about the same age and formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. See Terracettes.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

Codominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above but comparatively little from the sides.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-

improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the earth’s surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately

deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill. See Mine spoil.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

End moraine. A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long

geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately

horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geomorphology. The science that treats the general configuration of the earth's surface; specifically the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures, and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

Geosol. A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. (See Paleosol.)

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground moraine. An extensive, fairly even layer of till having an uneven or undulating surface.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical

of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is

generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Krotovinas. Irregular, tubular streaks in a soil horizon that are created when tunnels made by a burrowing animal are filled with material from another horizon.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lamella. A thin (commonly less than 1 centimeter thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

Landscape. A collection of related natural landforms; usually the land surface which the eye can comprehend in a single view.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Masses. See Redoximorphic features.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth’s crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

MLRA (major land resource area). A geographic area characterized by a particular pattern of land uses, elevation and topography, soils, climate, water resources, and potential natural vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleosol. A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. (See Geosol.)

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permafrost. Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.
Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.
Plastic limit. The moisture content at which a soil changes from semisolid to plastic.
Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
Plowpan. A compacted layer formed in the soil directly below the plowed layer.
Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.
Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.
Pore linings. See Redoximorphic features.
Potential native plant community. See Climax plant community.
Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.
Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.
Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.
Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.
Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.
Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.
Redoximorphic depletions. See Redoximorphic features.
Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be

removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.
Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.
Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.
Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.
Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.
Rise. A slight increase in slope and elevation of the land surface, typically with a broad summit and gently sloping sides.
Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.
Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.
Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.
Root zone. The part of the soil that can be penetrated by plant roots.
Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface

runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside, bounding a drainageway and lying between the drainageway and the adjacent interfluve. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth’s surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.
Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.
Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).
Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.
Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.
Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).
Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.
Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.
Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.
Substratum. The part of the soil below the solum.
Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.
Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.
Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.
Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”
Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.
Swale. A shallow, open depression in unconsolidated materials that lacks a defined channel but can funnel overland or subsurface flow into a drainageway. A small, shallow, typically closed depression in an undulating ground moraine formed by uneven glacial deposition.
Talf. A geomorphic component of flat plains consisting of an essentially flat and broad area dominated by closed depressions and a nonintegrated or poorly integrated drainage system. Precipitation tends to pond locally, and lateral transport is slow both above and below ground. These conditions favor the accumulation of soil organic matter and a retention of fine earth sediments; better drained soils are commonly adjacent to drainageways.
Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are

slightly outside the range defined for the family or higher taxonomic category of the series for which the soils are named.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Valley-side alluvium. A concave "slope wash" deposit at the base of a hillslope that may or may not include the alluvial toeslope.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Hillsboro, Illinois)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	36.8	19.1	28.0	65	-12	3	2.14	0.62	3.70	4	6.3
February---	43.4	24.1	33.7	72	-8	11	2.01	.95	2.96	4	4.0
March------	54.9	33.6	44.3	82	8	69	3.53	1.90	5.05	7	2.8
April------	67.1	43.6	55.3	87	23	214	4.24	1.84	6.40	7	.5
May--------	77.0	53.5	65.2	92	34	473	4.31	2.11	6.28	7	.0
June-------	85.7	62.5	74.1	98	46	721	4.07	2.11	5.91	6	.0
July-------	89.4	66.4	77.9	101	52	865	3.52	1.63	5.12	6	.0
August-----	87.5	63.6	75.6	100	48	785	3.53	1.84	5.02	5	.0
September--	80.9	55.7	68.3	96	35	548	3.16	.89	5.62	5	.0
October----	69.5	44.9	57.2	88	25	255	2.91	1.68	3.91	5	.0
November---	53.9	35.0	44.4	78	12	65	3.81	1.78	5.63	6	1.0
December---	41.2	24.2	32.7	67	-5	9	2.98	1.18	4.59	5	4.5
Yearly:											
Average---	65.6	43.8	54.7	---	---	---	---	---	---	---	---
Extreme---	105	-21	---	102	-15	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,018	40.21	32.78	45.88	67	19.1

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Hillsboro, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 8	Apr. 17	Apr. 25
2 years in 10 later than--	Apr. 3	Apr. 12	Apr. 20
5 years in 10 later than--	Mar. 25	Apr. 3	Apr. 12
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 24	Oct. 9	Sept. 28
2 years in 10 earlier than--	Oct. 30	Oct. 16	Oct. 3
5 years in 10 earlier than--	Nov. 10	Oct. 30	Oct. 14

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Hillsboro, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	203	186	167
8 years in 10	212	193	173
5 years in 10	227	208	185
2 years in 10	243	222	197
1 year in 10	251	229	203

Table 4.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
*Assumption	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Atlas	Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs
Ava	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Biddle	Fine, smectitic, mesic Aquic Argiudolls
Blair	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Bluford	Fine, smectitic, mesic Aeric Fragic Epiaqualfs
Bunkum	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Campton	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Chauncey	Fine, smectitic, mesic Typic Argialbolls
Cisne	Fine, smectitic, mesic Mollic Albaqualfs
Coulterville	Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs
Cowden	Fine, smectitic, mesic Mollic Albaqualfs
Darmstadt	Fine-silty, mixed, superactive, mesic Aquic Natrudalfs
Douglas	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Douglas	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Ebbert	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Fishhook	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Fosterburg	Fine, smectitic, mesic Vertic Argiaquolls
Harrison	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
*Harrison	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Herrick	Fine, smectitic, mesic Aquic Argiudolls
Hickory	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Holton	Coarse-loamy, mixed, active, nonacid, mesic Aeric Endoaquepts
Homen	Fine-silty, mixed, superactive, mesic Fragic Oxyaquic Hapludalfs
Hoyleton	Fine, smectitic, mesic Aquollic Hapludalfs
Huey	Fine-silty, mixed, superactive, mesic Typic Natraqualfs
*Keller	Fine-silty, mixed, superactive, mesic Aquollic Hapludalfs
Kendall	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Lawson	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Lenzburg	Fine-loamy, mixed, active, calcareous, mesic Haplic Udarents
Marine	Fine, smectitic, mesic Aeric Albaqualfs
Mascoutah	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Negley	Fine-loamy, mixed, active, mesic Typic Paleudalfs
Oconee	Fine, smectitic, mesic Udollic Endoaqualfs
Orthents	Fine-loamy, mixed, active, nonacid, mesic Typic Udorthents
Orthents	Orthents
Pana	Fine-loamy, mixed, active, mesic Mollic Hapludalfs
*Parke	Fine-silty, mixed, active, mesic Typic Hapludalfs
Piasa	Fine, smectitic, mesic Mollic Natraqualfs
Pierron	Fine, smectitic, mesic Typic Albaqualfs
*Pike	Fine-silty, mixed, active, mesic Typic Hapludalfs
Racoon	Fine-silty, mixed, superactive, mesic Typic Endoaqualfs
Radford	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Sawmill	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Shiloh	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Shoals	Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts
Tamalco	Fine, smectitic, mesic Aquic Natrudalfs
*Terril	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
Virden	Fine, smectitic, mesic Vertic Argiaquolls
Wynoose	Fine, smectitic, mesic Typic Albaqualfs

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
2A	Cisne silt loam, 0 to 2 percent slopes	2,876	0.6
3A	Hoyleton silt loam, 0 to 2 percent slopes	2,015	0.4
3B	Hoyleton silt loam, 2 to 5 percent slopes	3,674	0.8
3B2	Hoyleton silt loam, 2 to 5 percent slopes, eroded	408	*
5C2	Blair silt loam, 5 to 10 percent slopes, eroded	1,096	0.2
5C3	Blair silty clay loam, 5 to 10 percent slopes, severely eroded	361	*
6B2	Fishhook silt loam, 2 to 5 percent slopes, eroded	739	0.2
6C2	Fishhook silt loam, 5 to 10 percent slopes, eroded	1,881	0.4
7C2	Atlas silt loam, 5 to 10 percent slopes, eroded	5,817	1.3
7C3	Atlas silty clay loam, 5 to 10 percent slopes, severely eroded	694	0.2
7D2	Atlas silt loam, 10 to 18 percent slopes, eroded	1,339	0.3
8D	Hickory silt loam, 10 to 18 percent slopes	5,713	1.3
8D2	Hickory loam, 10 to 18 percent slopes, eroded	9,090	2.0
8D3	Hickory clay loam, 10 to 18 percent slopes, severely eroded	2,174	0.5
8F	Hickory silt loam, 18 to 35 percent slopes	19,534	4.3
8G	Hickory silt loam, 35 to 60 percent slopes	2,112	0.5
12A	Wynoose silt loam, 0 to 2 percent slopes	114	*
13A	Bluford silt loam, 0 to 2 percent slopes	1,373	0.3
13B	Bluford silt loam, 2 to 5 percent slopes	2,165	0.5
14B	Ava silt loam, 2 to 5 percent slopes	4,856	1.1
14C2	Ava silt loam, 5 to 10 percent slopes, eroded	2,225	0.5
15C2	Parke silt loam, 5 to 10 percent slopes, eroded	544	0.1
15D2	Parke silt loam, 10 to 18 percent slopes, eroded	148	*
31A	Pierron silt loam, 0 to 2 percent slopes	2,250	0.5
46A	Herrick silt loam, 0 to 2 percent slopes	50,208	11.1
48A	Ebbert silt loam, 0 to 2 percent slopes	4,604	1.0
50A	Virden silty clay loam, 0 to 2 percent slopes	51,013	11.2
112A	Cowden silt loam, 0 to 2 percent slopes	12,723	2.8
113A	Oconee silt loam, 0 to 2 percent slopes	9,002	2.0
113B	Oconee silt loam, 2 to 5 percent slopes	17,533	3.9
113B2	Oconee silt loam, 2 to 5 percent slopes, eroded	2,365	0.5
127A	Harrison silt loam, 0 to 2 percent slopes	928	0.2
127B	Harrison silt loam, 2 to 5 percent slopes	8,620	1.9
127B2	Harrison silt loam, 2 to 5 percent slopes, eroded	1,931	0.4
127C2	Harrison silt loam, 5 to 10 percent slopes, eroded	2,137	0.5
128B	Douglas silt loam, 2 to 5 percent slopes	1,215	0.3
128C2	Douglas silt loam, 5 to 10 percent slopes, eroded	1,838	0.4
138+	Shiloh silt loam, 0 to 2 percent slopes, overwash	185	*
138A	Shiloh silty clay loam, 0 to 2 percent slopes	848	0.2
256C2	Pana loam, 5 to 10 percent slopes, eroded	690	0.2
259C2	Assumption silt loam, 5 to 10 percent slopes, eroded	1,610	0.4
287A	Chauncey silt loam, 0 to 2 percent slopes	1,657	0.4
385A	Mascoutah silty clay loam, 0 to 2 percent slopes	999	0.2
470B2	Keller silt loam, 2 to 5 percent slopes, eroded	11,556	2.5
515C2	Bunkum silt loam, 5 to 10 percent slopes, eroded	3,688	0.8
515C3	Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded	648	0.1
517A	Marine silt loam, 0 to 2 percent slopes	5,289	1.2
517B	Marine silt loam, 2 to 5 percent slopes	8,521	1.9
533	Urban land	346	*
536	Dumps, mine	244	*
581B	Tamalco silt loam, 2 to 5 percent slopes	2,866	0.6
581B2	Tamalco silt loam, 2 to 5 percent slopes, eroded	1,292	0.3
582B	Homen silt loam, 2 to 5 percent slopes	7,353	1.6
582C	Homen silt loam, 5 to 10 percent slopes	894	0.2
582C2	Homen silt loam, 5 to 10 percent slopes, eroded	3,538	0.8
583A	Pike silt loam, 0 to 2 percent slopes	145	*
583B	Pike silt loam, 2 to 5 percent slopes	1,640	0.4
583C2	Pike silt loam, 5 to 10 percent slopes, eroded	1,479	0.3
583D2	Pike silt loam, 10 to 18 percent slopes, eroded	703	0.2
680B	Campton silt loam, 2 to 5 percent slopes	196	*
790A	Herrick-Biddle silt loams, 0 to 2 percent slopes	2,770	0.6
802B	Orthents, loamy, undulating	750	0.2
802E	Orthents, loamy, hilly	192	*

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
830	Landfills	116	*
835G	Earthen dam	27	*
864	Pits, quarries	266	*
871B	Lenzburg silt loam, 1 to 7 percent slopes	108	*
871D	Lenzburg silty clay loam, 7 to 20 percent slopes	355	*
871G	Lenzburg silty clay loam, 20 to 60 percent slopes	182	*
882A	Oconee-Darmstadt-Coulterville silt loams, 0 to 2 percent slopes	4,570	1.0
882B	Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes	746	0.2
882B2	Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes, eroded	21,498	4.7
885A	Virden-Fosterburg silt loams, 0 to 2 percent slopes	3,736	0.8
894A	Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes	49,519	10.9
897C2	Bunkum-Atlas silt loams, 5 to 10 percent slopes, eroded	5,347	1.2
912B2	Hoyleton-Darmstadt silt loams, 2 to 5 percent slopes, eroded	653	0.1
991A	Cisne-Huey silt loams, 0 to 2 percent slopes	3,155	0.7
993A	Cowden-Piasa silt loams, 0 to 2 percent slopes	32,884	7.2
998F	Hickory and Negley loams, 18 to 35 percent slopes	916	0.2
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded	2,794	0.6
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	306	*
3225A	Holton silt loam, 0 to 2 percent slopes, frequently flooded	333	*
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded	21,446	4.7
7242A	Kendall silt loam, 0 to 2 percent slopes, rarely flooded	86	*
7788B	Shoals and Terril loams, 1 to 4 percent slopes, rarely flooded	1,325	0.3
8109A	Racoon silt loam, 0 to 2 percent slopes, occasionally flooded	421	*
M-W	Miscellaneous water	282	*
W	Water	5,780	1.3
	Total	454,265	100.0

* Less than 0.1 percent.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Miscellaneous areas and soils that are generally not available for use as cropland or pastureland are not listed. Dashes indicate that the soil is generally not used as cropland or pastureland or is generally not suited to those uses)

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
2A:		
Cisne	Ponding	Ponding, low pH, frost heave
3A:		
Hoyleton	Wetness, crusting	Wetness, low pH
3B:		
Hoyleton	Wetness, crusting, water erosion	Wetness, low pH, water erosion
3B2:		
Hoyleton	Wetness, crusting, water erosion	Wetness, low pH, water erosion
5C2:		
Blair	Wetness, crusting, water erosion	Wetness, low pH, water erosion
5C3:		
Blair	Wetness, poor tilth, crusting, water erosion	Wetness, poor tilth, low pH, water erosion, low fertility
6B2:		
Fishhook	Wetness, crusting, water erosion	Wetness, low pH, water erosion
6C2:		
Fishhook	Wetness, crusting, water erosion	Wetness, low pH, water erosion
7C2:		
Atlas	Wetness, crusting, water erosion	Wetness, low pH, water erosion
7C3:		
Atlas	Wetness, poor tilth, crusting, water erosion	Wetness, poor tilth, low pH, water erosion, low fertility
7D2:		
Atlas	Wetness, crusting, water erosion	Wetness, low pH, water erosion
8D:		
Hickory	Crusting, water erosion	Low pH, water erosion
8D2:		
Hickory	Crusting, water erosion	Low pH, water erosion
8D3:		
Hickory	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
8F:		
Hickory	---	Equipment limitation, low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
8G:		
Hickory	---	---
12A:		
Wynoose	Ponding, low pH	Ponding, low pH, frost heave
13A:		
Bluford	Wetness	Wetness, low pH
13B:		
Bluford	Wetness, water erosion	Wetness, low pH, water erosion
14B:		
Ava	Wetness, water erosion	Wetness, low pH, water erosion
14C2:		
Ava	Wetness, crusting, water erosion	Wetness, low pH, water erosion
15C2:		
Parke	Crusting, water erosion	Low pH, water erosion
15D2:		
Parke	Crusting, water erosion	Low pH, water erosion
31A:		
Pierron	Ponding, low pH, crusting	Ponding, low pH, frost heave
46A:		
Herrick	Wetness	---
48A:		
Ebbert	Ponding	---
50A:		
Virden	Ponding, poor tilth	---
112A:		
Cowden	Ponding	Ponding, low pH, frost heave
113A:		
Oconee	Wetness	Wetness, low pH
113B:		
Oconee	Wetness, water erosion	Wetness, low pH, water erosion
113B2:		
Oconee	Wetness, crusting, water erosion	Wetness, low pH, water erosion
127A:		
Harrison	No major limitations	Low pH
127B:		
Harrison	Water erosion	Low pH
127B2:		
Harrison	Crusting, water erosion	Low pH, water erosion
127C2:		
Harrison	Crusting, water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
128B:		
Douglas	Water erosion	Low pH
128C2:		
Douglas	Crusting, water erosion	Low pH, water erosion
138+:		
Shiloh	Wetness	---
138A:		
Shiloh	Ponding, poor tilth	---
256C2:		
Pana	Crusting, water erosion	Low pH, water erosion
259C2:		
Assumption	Crusting, water erosion	Low pH, water erosion
287A:		
Chauncey	Wetness	Wetness, low pH, frost heave
385A:		
Mascoutah	Ponding, poor tilth	---
470B2:		
Keller	Wetness, crusting, water erosion	Wetness, low pH, water erosion
515C2:		
Bunkum	Wetness, crusting, water erosion	Wetness, low pH, water erosion
515C3:		
Bunkum	Wetness, poor tilth, crusting, water erosion	Wetness, poor tilth, low pH, water erosion, low fertility
517A:		
Marine	Wetness	Wetness, low pH
517B:		
Marine	Wetness, water erosion	Wetness, low pH, water erosion
581B:		
Tamalco	Wetness, high pH, crusting, water erosion, excess sodium	Wetness, high pH, water erosion, excess sodium
581B2:		
Tamalco	Wetness, high pH, crusting, water erosion, excess sodium	Wetness, high pH, water erosion, excess sodium
582B:		
Homen	Crusting, water erosion	Low pH, water erosion
582C:		
Homen	Crusting, water erosion	Low pH, water erosion
582C2:		
Homen	Crusting, water erosion	Low pH, water erosion
583A:		
Pike	Crusting	Low pH

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
583B:		
Pike	Crusting, water erosion	Low pH, water erosion
583C2:		
Pike	Crusting, water erosion	Low pH, water erosion
583D2:		
Pike	Crusting, water erosion	Low pH, water erosion
680B:		
Campton	Crusting, water erosion	Low pH, water erosion
790A:		
Herrick	Wetness	---
Biddle	Wetness, excess sodium	---
871B:		
Lenzburg	---	Water erosion, low fertility, excess lime
871D:		
Lenzburg	---	Water erosion, low fertility, excess lime
871G:		
Lenzburg	---	---
882A:		
Oconee	Wetness	Wetness, low pH
Darmstadt	Wetness, high pH, crusting, excess sodium	Wetness, high pH, excess sodium
Coulterville	Wetness, high pH, crusting, excess sodium	Wetness, high pH, excess sodium
882B:		
Oconee	Wetness, water erosion	Wetness, low pH, water erosion
Darmstadt	Wetness, high pH, crusting, water erosion, excess sodium	Wetness, high pH, water erosion, excess sodium
Coulterville	Wetness, high pH, crusting, water erosion, excess sodium	Wetness, high pH, water erosion, excess sodium
882B2:		
Oconee	Wetness, crusting, water erosion	Wetness, low pH, water erosion
Darmstadt	Wetness, high pH, crusting, water erosion, excess sodium	Wetness, high pH, water erosion, excess sodium
Coulterville	Wetness, high pH, crusting, water erosion, excess sodium	Wetness, high pH, water erosion, excess sodium
885A:		
Virden	Ponding	---
Fosterburg	Ponding, excess sodium	---

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
894A:		
Herrick	Wetness	---
Biddle	Wetness, excess sodium	---
Piasa	Ponding, high pH, excess sodium	---
897C2:		
Bunkum	Wetness, crusting, water erosion	Wetness, low pH, water erosion
Atlas	Wetness, crusting, water erosion	Wetness, low pH, water erosion
912B2:		
Hoyleton	Wetness, crusting, water erosion	Wetness, low pH, water erosion
Darmstadt	Wetness, high pH, crusting, water erosion, excess sodium	Wetness, high pH, water erosion, excess sodium
991A:		
Cisne	Ponding	---
Huey	Ponding, high pH, excess sodium	---
993A:		
Cowden	Ponding	---
Piasa	Ponding, high pH, excess sodium	---
998F:		
Hickory	---	Equipment limitation, low pH, water erosion
Negley	---	Equipment limitation, low pH, water erosion
3074A:		
Radford	Flooding, wetness	Flooding, wetness
3107A:		
Sawmill	Flooding, ponding, poor tilth	Flooding, ponding, frost heave, poor tilth
3225A:		
Holton	Flooding, wetness, crusting	Flooding, wetness
3451A:		
Lawson	Flooding, wetness	Flooding, wetness
7242A:		
Kendall	Wetness, crusting	Wetness, low pH
7788B:		
Shoals	Wetness, crusting	Wetness
Terril	Water erosion	Low pH

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
8109A:		
Racoon	Flooding, ponding, crusting	Flooding, ponding, low pH, frost heave

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture	Oats
		Bu	Bu	Bu	Tons	AUM*	Bu
2A:							
Cisne	3w	135	41	53	4.18	6.17	---
3A:							
Hoyleton	2w	132	42	52	4.18	6.17	---
3B:							
Hoyleton	2e	131	42	51	4.14	6.10	---
3B2:							
Hoyleton	2e	125	40	49	3.97	5.86	---
5C2:							
Blair	3e	115	37	47	3.68	5.36	---
5C3:							
Blair	4e	107	34	43	3.41	4.90	---
6B2:							
Fishhook	2e	109	35	42	3.22	4.70	53
6C2:							
Fishhook	3e	107	34	41	3.15	4.55	51
7C2:							
Atlas	3e	95	33	38	2.84	4.11	44
7C3:							
Atlas	4e	80	28	32	2.37	3.46	36
7D2:							
Atlas	4e	87	30	34	2.59	3.74	44
8D:							
Hickory	3e	99	34	40	3.29	4.80	46
8D2:							
Hickory	3e	95	32	38	3.13	4.50	44
8D3:							
Hickory	4e	86	29	35	2.86	4.20	40
8F:							
Hickory	6e	---	---	---	2.64	3.84	---
8G:							
Hickory	7e	---	---	---	---	---	---
12A:							
Wynoose	3w	115	38	46	3.84	5.67	---
13A:							
Bluford	2w	122	40	50	3.05	4.50	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture	Oats
		Bu	Bu	Bu	Tons	AUM*	Bu
13B:							
Bluford	2e	120	39	49	3.02	4.45	---
14B:							
Ava	2e	120	39	50	2.91	4.24	---
14C2:							
Ava	3e	108	35	45	2.62	3.77	---
15C2:							
Parke	3e	128	40	49	3.05	4.44	---
15D2:							
Parke	3e	120	37	46	2.85	4.11	---
31A:							
Pierron	3w	122	39	50	4.07	6.00	---
46A:							
Herrick	1	163	52	66	---	---	85
48A:							
Ebbert	3w	130	48	59	---	---	---
50A:							
Virden	2w	164	53	64	---	---	84
112A:							
Cowden	2w	143	45	57	4.41	6.50	---
113A:							
Oconee	2w	148	45	57	4.75	7.00	---
113B:							
Oconee	2e	147	45	56	4.70	6.93	---
113B2:							
Oconee	2e	141	43	54	4.51	6.65	---
127A:							
Harrison	1	161	50	63	5.20	7.67	83
127B:							
Harrison	2e	159	50	62	5.15	7.59	83
127B2:							
Harrison	2e	153	48	60	4.94	7.29	78
127C2:							
Harrison	3e	150	47	59	4.84	7.06	78
128B:							
Douglas	2e	155	48	61	4.81	7.10	83
128C2:							
Douglas	3e	146	45	58	4.52	6.60	78
138+:							
Shiloh, overwash	2w	158	52	62	---	---	79

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture	Oats
		Bu	Bu	Bu	Tons	AUM*	Bu
138A: Shiloh	2w	158	52	62	---	---	79
256C2: Pana	3e	130	43	53	3.47	5.06	58
259C2: Assumption	3e	137	44	55	3.99	5.82	70
287A: Chauncey	3w	145	46	57	4.29	6.33	---
385A: Mascoutah	2w	175	55	64	---	---	---
470B2: Keller	2e	126	42	51	3.85	5.61	55
515C2: Bunkum	3e	123	42	47	3.26	4.76	---
515C3: Bunkum	4e	114	39	44	3.10	4.30	---
517A: Marine	2w	130	40	51	3.05	4.50	---
517B: Marine	2e	129	40	50	3.02	4.40	---
533. Urban land							
536. Dumps, mine							
581B: Tamalco	3e	103	36	40	3.10	4.58	---
581B2: Tamalco	3e	97	36	40	2.91	4.25	---
582B: Homen	2e	134	43	50	3.36	4.90	---
582C: Homen	3e	131	42	49	3.29	4.80	---
582C2: Homen	3e	126	40	47	3.15	4.60	---
583A: Pike	1	145	44	57	3.84	5.67	---
583B: Pike	2e	144	44	56	3.80	5.60	---
583C2: Pike	3e	135	41	53	3.57	5.20	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture	Oats
		Bu	Bu	Bu	Tons	AUM*	Bu
583D2:							
Pike	3e	126	38	50	3.34	4.82	---
680B:							
Campton	2e	150	47	59	4.60	6.80	78
790A		155	50	63	---	---	---
Herrick	1						
Biddle	1						
802B:							
Orthents, loamy	2e	---	---	---	---	---	---
802E:							
Orthents, loamy	6e	---	---	---	---	---	---
830.							
Landfills							
835G.							
Earthen dam							
864.							
Pits, quarries							
871B:							
Lenzburg	2e	---	---	---	3.58	5.20	44
871D:							
Lenzburg	6e	---	---	---	3.29	4.80	---
871G:							
Lenzburg	7e	---	---	---	---	---	---
882A		132	43	50	4.02	5.93	---
Oconee	2w						
Darmstadt	3w						
Coulterville	2w						
882B		130	42	49	3.98	5.81	---
Oconee	2e						
Darmstadt	3e						
Coulterville	2e						
882B2		124	40	47	3.74	5.58	---
Oconee	2e						
Darmstadt	3e						
Coulterville	2e						
885A		156	51	61	---	---	---
Virden	2w						
Fosterburg	3w						
894A		143	48	58	---	---	---
Herrick	1						
Biddle	1						
Piasa	3w						

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture	Oats
		Bu	Bu	Bu	Tons	AUM*	Bu
897C2		112	38	43	3.10	4.52	---
Bunkum	3e						
Atlas	3e						
912B2		114	38	44	3.59	5.28	---
Hoyleton	2e						
Darmstadt	3e						
991A		118	40	46	---	---	---
Cisne	3w						
Huey	3w						
993A		133	44	53	---	---	---
Cowden	2w						
Piasa	3w						
998F		---	---	---	2.74	3.96	---
Hickory	6e						
Negley	6e						
3074A:							
Radford	3w	150	48	59	4.47	6.60	---
3107A:							
Sawmill	3w	153	49	58	4.68	6.90	---
3225A:							
Holton	3w	110	35	41	3.46	5.10	---
3451A:							
Lawson	3w	154	50	59	4.68	6.90	---
7242A:							
Kendall	2w	155	48	60	4.75	7.00	80
7788B		155	50	62	5.20	7.68	---
Shoals	2w						
Terril	2e						
8109A:							
Racoon	2w	130	41	51	3.50	5.17	---

* Animal unit month: The amount of forage required to feed one mature cow, of approximately 1,000 pounds weight, with or without a calf, for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
2A	Cisne silt loam, 0 to 2 percent slopes (where drained)
3A	Hoyleton silt loam, 0 to 2 percent slopes
3B	Hoyleton silt loam, 2 to 5 percent slopes
3B2	Hoyleton silt loam, 2 to 5 percent slopes, eroded
13A	Bluford silt loam, 0 to 2 percent slopes (where drained)
13B	Bluford silt loam, 2 to 5 percent slopes
14B	Ava silt loam, 2 to 5 percent slopes
46A	Herrick silt loam, 0 to 2 percent slopes
48A	Ebbert silt loam, 0 to 2 percent slopes (where drained)
50A	Virden silty clay loam, 0 to 2 percent slopes (where drained)
112A	Cowden silt loam, 0 to 2 percent slopes (where drained)
113A	Oconee silt loam, 0 to 2 percent slopes (where drained)
113B	Oconee silt loam, 2 to 5 percent slopes
113B2	Oconee silt loam, 2 to 5 percent slopes, eroded
127A	Harrison silt loam, 0 to 2 percent slopes
127B	Harrison silt loam, 2 to 5 percent slopes
127B2	Harrison silt loam, 2 to 5 percent slopes, eroded
128B	Douglas silt loam, 2 to 5 percent slopes
138+	Shiloh silt loam, 0 to 2 percent slopes, overwash (where drained)
138A	Shiloh silty clay loam, 0 to 2 percent slopes (where drained)
287A	Chauncey silt loam, 0 to 2 percent slopes (where drained)
385A	Mascoutah silty clay loam, 0 to 2 percent slopes (where drained)
470B2	Keller silt loam, 2 to 5 percent slopes, eroded
517A	Marine silt loam, 0 to 2 percent slopes (where drained)
517B	Marine silt loam, 2 to 5 percent slopes
582B	Homen silt loam, 2 to 5 percent slopes
583A	Pike silt loam, 0 to 2 percent slopes
583B	Pike silt loam, 2 to 5 percent slopes
680B	Campton silt loam, 2 to 5 percent slopes
790A	Herrick-Biddle silt loams, 0 to 2 percent slopes
871B	Lenzburg silt loam, 1 to 7 percent slopes
882A	Oconee-Darmstadt-Coulterville silt loams, 0 to 2 percent slopes (where drained)
882B	Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes
882B2	Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes, eroded
885A	Virden-Fosterburg silt loams, 0 to 2 percent slopes (where drained)
894A	Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes
912B2	Hoyleton-Darmstadt silt loams, 2 to 5 percent slopes, eroded
991A	Cisne-Huey silt loams, 0 to 2 percent slopes (where drained)
993A	Cowden-Piasa silt loams, 0 to 2 percent slopes (where drained)
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3225A	Holton silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7242A	Kendall silt loam, 0 to 2 percent slopes, rarely flooded (where drained)
7788B	Shoals and Terril loams, 1 to 4 percent slopes, rarely flooded (where drained)
8109A	Racoon silt loam, 0 to 2 percent slopes, occasionally flooded (where drained)

Table 9.--Hydric Soils

(Only those map units that have hydric components are listed. See text for a description of hydric qualities and definitions of the codes in the hydric criteria column)

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
2A:				
Cisne silt loam, 0 to 2 percent slopes	Cisne	Hydric	ground moraine	2B3
	Huey	Hydric	depression	2B3
3A:				
Hoyleton silt loam, 0 to 2 percent slopes	Hoyleton	Not hydric	ground moraine	---
	Virden	Hydric	swale	2B3
	Cisne	Hydric	flat	2B3
	Cowden	Hydric	swale	2B3
	Huey	Hydric	depression	2B3
3B:				
Hoyleton silt loam, 2 to 5 percent slopes	Hoyleton	Not hydric	ground moraine	---
	Cisne	Hydric	flat	2B3
	Cowden	Hydric	flat	2B3
	Huey	Hydric	depression	2B3
3B2:				
Hoyleton silt loam, 2 to 5 percent slopes, eroded	Hoyleton	Not hydric	ground moraine	---
	Cisne	Hydric	flat	2B3
	Cowden	Hydric	flat	2B3
	Huey	Hydric	depression	2B3
12A:				
Wynoose silt loam, 0 to 2 percent slopes	Wynoose	Hydric	ground moraine	2B3
	Huey	Hydric	depression	2B3
13A:				
Bluford silt loam, 0 to 2 percent slopes	Bluford	Not hydric	ground moraine	---
	Wynoose	Hydric	flat	2B3
	Cisne	Hydric	flat	2B3
13B:				
Bluford silt loam, 2 to 5 percent slopes	Bluford	Not hydric	ground moraine	---
	Wynoose	Hydric	flat	2B3
	Cisne	Hydric	flat	2B3
31A:				
Pierron silt loam, 0 to 2 percent slopes	Pierron	Hydric	depression, ground moraine	2B3
46A:				
Herrick silt loam, 0 to 2 percent slopes	Herrick	Not hydric	ground moraine	---
	Virden	Hydric	depression	2B3
48A:				
Ebbert silt loam, 0 to 2 percent slopes	Ebbert	Hydric	depression	2B3
50A:				
Virden silty clay loam, 0 to 2 percent slopes	Virden	Hydric	ground moraine	2B3
	Piasa	Hydric	ground moraine	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
112A:				
Cowden silt loam, 0 to 2 percent slopes	Cowden	Hydric	ground moraine	2B3
	Piasa	Hydric	ground moraine	2B3
113A:				
Oconee silt loam, 0 to 2 percent slopes	Oconee	Not hydric	ground moraine	---
	Cowden	Hydric	swale	2B3
	Piasa	Hydric	depression	2B3
113B:				
Oconee silt loam, 2 to 5 percent slopes	Oconee	Not hydric	ground moraine, knoll	---
	Cowden	Hydric	swale	2B3
113B2:				
Oconee silt loam, 2 to 5 percent slopes, eroded	Oconee	Not hydric	ground moraine, knoll	---
	Cowden	Hydric	swale	2B3
138+:				
Shiloh silt loam, 0 to 2 percent slopes, overwash	Shiloh	Hydric	ground moraine	2B3
138A:				
Shiloh silty clay loam, 0 to 2 percent slopes	Shiloh	Hydric	depression, ground moraine	2B3
287A:				
Chauncey silt loam, 0 to 2 percent slopes	Chauncey	Hydric	ground moraine, knoll	2B3
385A:				
Mascoutah silty clay loam, 0 to 2 percent slopes	Mascoutah	Hydric	depression, ground moraine	2B3
	Piasa	Hydric	depression, ground moraine	2B3
517A:				
Marine silt loam, 0 to 2 percent slopes	Marine	Not hydric	ground moraine	---
	Pierron	Hydric	swale	2B3
517B:				
Marine silt loam, 2 to 5 percent slopes	Marine	Not hydric	ground moraine	---
	Pierron	Hydric	flat	2B3
790A:				
Herrick-Biddle silt loams, 0 to 2 percent slopes	Herrick	Not hydric	ground moraine	---
	Biddle	Not hydric	ground moraine	---
	Piasa	Hydric	depression, ground moraine	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
882A:				
Oconee-Darmstadt-Coulterville silt loams, 0 to 2 percent slopes	Oconee	Not hydric	ground moraine	---
	Darmstadt	Not hydric	ground moraine	---
	Coulterville	Not hydric	ground moraine	---
	Cowden	Hydric	swale	2B3
	Piasa	Hydric	depression	2B3
882B:				
Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes	Oconee	Not hydric	ground moraine	---
	Darmstadt	Not hydric	ground moraine	---
	Coulterville	Not hydric	ground moraine	---
	Cowden	Hydric	flat	2B3
	Piasa	Hydric	depression	2B3
882B2:				
Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes, eroded	Oconee	Not hydric	ground moraine	---
	Darmstadt	Not hydric	ground moraine	---
	Coulterville	Not hydric	ground moraine	---
	Cowden	Hydric	flat	2B3
	Piasa	Hydric	depression	2B3
885A:				
Virden-Fosterburg silt loams, 0 to 2 percent slopes	Virden	Hydric	ground moraine	2B3
	Fosterburg	Hydric	ground moraine	2B3
	Piasa	Hydric	ground moraine	2B3
894A:				
Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes	Herrick	Not hydric	ground moraine	---
	Biddle	Not hydric	ground moraine	---
	Piasa	Hydric	depression, ground moraine	2B3
912B2:				
Hoyleton-Darmstadt silt loams, 2 to 5 percent slopes, eroded	Hoyleton	Not hydric	ground moraine	---
	Darmstadt	Not hydric	ground moraine	---
	Cisne	Hydric	flat	2B3
	Piasa	Hydric	depression	2B3
991A:				
Cisne-Huey silt loams, 0 to 2 percent slopes	Cisne	Hydric	ground moraine	2B3
	Huey	Hydric	ground moraine	2B3
993A:				
Cowden-Piasa silt loams, 0 to 2 percent slopes	Cowden	Hydric	ground moraine	2B3
	Piasa	Hydric	ground moraine	2B3
3074A:				
Radford silt loam, 0 to 2 percent slopes, frequently flooded	Radford	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
3107A:				
Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	Hydric	flood plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
3225A:				
Holton silt loam, 0 to 2 percent slopes, frequently flooded	Holton	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
3451A:				
Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Lawson	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
7242A:				
Kendall silt loam, 0 to 2 percent slopes, rarely flooded	Kendall	Not hydric	flood-plain step	---
	Racoon	Hydric	flood plain	2B3
8109A:				
Racoon silt loam, 0 to 2 percent slopes, occasionally flooded	Racoon	Hydric	flood plain	2B3

Table 10.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
2A:					
Cisne	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3A:					
Hoyleton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3B:					
Hoyleton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3B2:					
Hoyleton----------------	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
5C2:					
Blair-------------------	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
5C3:					
Blair-------------------	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
6B2:					
Fishhook	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
6C2:					
Fishhook	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7C2:					
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
7C3:					
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
7D2:					
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
8D:					
Hickory	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
8D2:					
Hickory	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8D3:					
Hickory	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8F:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
8G:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
12A:					
Wynoose	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
13A:					
Bluford	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
13B:					
Bluford	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
14B:					
Ava	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
14C2:					
Ava	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
15C2:					
Parke	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
15D2:					
Parke	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
31A:					
Pierron	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
46A:					
Herrick	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
48A:					
Ebbert	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
50A:					
Virden	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
112A:					
Cowden	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
113A:					
Oconee	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
113B:					
Oconee	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
113B2:					
Oconee	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
127A:					
Harrison	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
127B:					
Harrison	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
127B2:					
Harrison	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
127C2:					
Harrison	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
128B:					
Douglas	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
128C2:					
Douglas	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
138+:					
Shiloh, overwash	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
138A:					
Shiloh	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
256C2:					
Pana	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
259C2:					
Assumption	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
287A:					
Chauncey	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
385A:					
Mascoutah	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
470B2:					
Keller	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
515C2:					
Bunkum	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
515C3:					
Bunkum	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
517A:					
Marine	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
517B:					
Marine	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
533.					
Urban land					
536.					
Dumps, mine					
581B:					
Tamalco	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
581B2:					
Tamalco	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
582B:					
Homen	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
582C:					
Homen	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
582C2:					
Homen	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
583A:					
Pike	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
583B:					
Pike	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
583C2:					
Pike	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
583D2:					
Pike	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
680B:					
Campton	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
790A:					
Herrick	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Biddle	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
802B, 802E. Orthents, loamy					
830. Landfills					
835G. Earthen dam					
864. Pits, quarries					
871B:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
871D:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak	---	---
871G:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak	---	---
882A:					
Oconee	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Darmstadt	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
Coulterville	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
882B:					
Oconee	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Darmstadt	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
Coulterville	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
882B2:					
Oconee	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
882B2:					
Darmstadt	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
Coulterville	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
885A:					
Virden	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Fosterburg	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
894A:					
Herrick	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Biddle	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Piasa	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
897C2:					
Bunkum	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
897C2:					
Atlas	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
912B2:					
Hoyleton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Darmstadt	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
991A:					
Cisne	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
991A:					
Huey	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
993A:					
Cowden	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Piasa	Common juniper	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---
998F:					
Hickory	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
Negley	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3074A:					
Radford	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107A:					
Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3225A:					
Holton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
3451A:					
Lawson	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7242A:					
Kendall	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7788B:					
Shoals	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Terril	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
8109A:					
Racoon	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 11a.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
3A:							
Hoyleton	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
3B:							
Hoyleton	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
3B2:							
Hoyleton	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
5C2:							
Blair	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
5C3:							
Blair	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
6B2:							
Fishhook	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
6C2:							
Fishhook	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
7C2:							
Atlas	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
				Slope	0.50		
7C3:							
Atlas	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
				Slope	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
7D2:							
Atlas---------------	90	Moderate		Poorly suited		Severe	
		Stickiness/slope	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
8D:							
Hickory-------------	91	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
8D2:							
Hickory-------------	91	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
8D3:							
Hickory-------------	91	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
8F:							
Hickory-------------	91	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
8G:							
Hickory-------------	91	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
12A:							
Wynoose-------------	90	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
13A:							
Bluford-------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
13B:							
Bluford-------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
14B:							
Ava-----------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
14C2:							
Ava-----------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
15C2:							
Parke---------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
15D2:							
Parke	90	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
31A:							
Pierron	90	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
46A:							
Herrick	92	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
48A:							
Ebbert	100	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
50A:							
Virden	92	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
112A:							
Cowden	94	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
113A:							
Oconee	94	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
113B:							
Oconee	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
113B2:							
Oconee	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
127A:							
Harrison	100	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
127B:							
Harrison	100	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
127B2:							
Harrison	100	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127C2:							
Harrison	96	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
128B:							
Douglas	100	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
128C2:							
Douglas	100	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
138+:							
Shiloh, overwash	94	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
				Low strength	0.50		
138A:							
Shiloh	94	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
256C2:							
Pana	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
259C2:							
Assumption	97	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
287A:							
Chauncey	100	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
				Low strength	0.50		
385A:							
Mascoutah	90	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
470B2:							
Keller	100	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
515C2:							
Bunkum	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515C3:							
Bunkum--------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
517A:							
Marine--------------	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
517B:							
Marine--------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
533:							
Urban land----------	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine---------	97	Not rated		Not rated		Not rated	
581B:							
Tamalco-------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
581B2:							
Tamalco-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
582B:							
Homen---------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
582C:							
Homen---------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
582C2:							
Homen---------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
583A:							
Pike----------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
583B:							
Pike----------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
583C2:							
Pike----------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
583D2:							
Pike----------------	90	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
680B:							
Campton-------------	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
790A:							
Herrick-------------	60	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Biddle--------------	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
802B:							
Orthents, loamy-----	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
802E:							
Orthents, loamy-----	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
830:							
Landfills-----------	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam---------	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
871D:							
Lenzburg------------	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
871G:							
Lenzburg------------	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
882A:							
Oconee--------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Darmstadt-----------	29	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
882A:							
Coulterville--------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
882B:							
Oconee--------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Darmstadt-----------	29	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Coulterville--------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
882B2:							
Oconee--------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Darmstadt-----------	29	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Coulterville--------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
885A:							
Virden--------------	50	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
Fosterburg----------	40	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
894A:							
Herrick-------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Biddle--------------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Piasa---------------	25	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
897C2:							
Bunkum--------------	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
Atlas---------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
				Slope	0.50		
912B2:							
Hoyleton------------	60	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Darmstadt-----------	34	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
991A:							
Cisne---------------	55	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
Huey----------------	45	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
993A:							
Cowden--------------	55	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
Piasa---------------	45	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
998F:							
Hickory-------------	50	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Negley--------------	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
3074A:							
Radford-------------	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Wetness	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
3107A:							
Sawmill	92	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Flooding	1.00		
				Wetness	1.00		
				Low strength	0.50		
3225A:							
Holton	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
3451A:							
Lawson	92	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Wetness	0.50		
7242A:							
Kendall	88	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
7788B:							
Shoals	46	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Terril	44	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
8109A:							
Racoon	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Flooding	1.00		
				Wetness	1.00		
				Low strength	0.50		

Table 11b.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
3A:							
Hoyleton	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
3B:							
Hoyleton	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
3B2:							
Hoyleton	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
5C2:							
Blair	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
5C3:							
Blair	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
6B2:							
Fishhook	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
6C2:							
Fishhook	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
7C2:							
Atlas	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50
7C3:							
Atlas	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
7D2:							
Atlas	90	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
						Low strength	0.50
8D:							
Hickory	91	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
8D2:							
Hickory	91	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
8D3:							
Hickory	91	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
8F:							
Hickory	91	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
8G:							
Hickory	91	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
12A:							
Wynoose	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
13A:							
Bluford	90	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
13B:							
Bluford	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
14B:							
Ava	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
14C2:							
Ava	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
15C2:							
Parke---------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
15D2:							
Parke---------------	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
31A:							
Pierron-------------	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
46A:							
Herrick-------------	92	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
48A:							
Ebbert--------------	100	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
50A:							
Virden--------------	92	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
112A:							
Cowden--------------	94	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
113A:							
Oconee--------------	94	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
113B:							
Oconee--------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
113B2:							
Oconee--------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
127A:							
Harrison------------	100	Slight		Slight		Moderately suited	
						Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
127B:							
Harrison------------	100	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
127B2:							
Harrison------------	100	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
127C2:							
Harrison------------	96	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
128B:							
Douglas-------------	100	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
128C2:							
Douglas-------------	100	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
138+:							
Shiloh, overwash----	94	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
138A:							
Shiloh--------------	94	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
256C2:							
Pana----------------	95	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
259C2:							
Assumption----------	97	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
287A:							
Chauncey------------	100	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
385A:							
Mascoutah-----------	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
470B2:							
Keller--------------	100	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515C2:							
Bunkum	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
515C3:							
Bunkum	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
517A:							
Marine	95	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
517B:							
Marine	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
533:							
Urban land	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine	97	Not rated		Not rated		Not rated	
581B:							
Tamalco	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
581B2:							
Tamalco	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
582B:							
Homen	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
582C:							
Homen	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
582C2:							
Homen	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
583A:							
Pike	90	Slight		Slight		Moderately suited	
						Low strength	0.50
583B:							
Pike	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
583C2:							
Pike----------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
583D2:							
Pike----------------	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
680B:							
Campton-------------	95	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
790A:							
Herrick-------------	60	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Biddle--------------	30	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
802B:							
Orthents, loamy-----	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
802E:							
Orthents, loamy-----	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
830:							
Landfills-----------	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam---------	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
871D:							
Lenzburg------------	85	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
871G:							
Lenzburg------------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
882A:							
Oconee	40	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
Darmstadt	29	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
Coulterville	25	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
882B:							
Oconee	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
Darmstadt	29	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
Coulterville	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
882B2:							
Oconee	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
Darmstadt	29	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
Coulterville	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
885A:							
Virden	50	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
Fosterburg	40	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
894A:							
Herrick	40	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
894A:							
Biddle	35	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Piasa	25	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
897C2:							
Bunkum	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
Atlas	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50
912B2:							
Hoyleton	60	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
Darmstadt	34	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
991A:							
Cisne	55	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
Huey	45	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
993A:							
Cowden	55	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
Piasa	45	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
998F:							
Hickory	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Negley	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
3074A:							
Radford	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
3107A:							
Sawmill	92	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
3225A:							
Holton	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
3451A:							
Lawson	92	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
7242A:							
Kendall	88	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
7788B:							
Shoals	46	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
Terril	44	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
8109A:							
Racoon	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50

Table 11c.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
2A:							
Cisne	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
3A:							
Hoyleton	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
3B:							
Hoyleton	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
3B2:							
Hoyleton	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
5C2:							
Blair	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
5C3:							
Blair	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
6B2:							
Fishhook	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
6C2:							
Fishhook	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
7C2:							
Atlas	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
7C3:							
Atlas	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
7D2:							
Atlas	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
8D:							
Hickory	91	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
8D2:							
Hickory	91	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
8D3:							
Hickory	91	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
8F:							
Hickory	91	Moderately suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
8G:							
Hickory	91	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
12A:							
Wynoose	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
13A:							
Bluford	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
13B:							
Bluford	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
14B:							
Ava	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
14C2:							
Ava	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
15C2:							
Parke	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
15D2:							
Parke	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
31A:							
Pierron	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
46A:							
Herrick	92	Well suited		Well suited		Moderately suited	
						Low strength	0.50
48A:							
Ebbert	100	Well suited		Well suited		Moderately suited	
						Low strength	0.50
50A:							
Virden	92	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
112A:							
Cowden	94	Well suited		Well suited		Moderately suited	
						Low strength	0.50
113A:							
Oconee	94	Well suited		Well suited		Moderately suited	
						Low strength	0.50
113B:							
Oconee	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
113B2:							
Oconee	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
127A:							
Harrison	100	Well suited		Well suited		Moderately suited	
						Low strength	0.50
127B:							
Harrison	100	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
127B2:							
Harrison	100	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
127C2:							
Harrison------------	96	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
128B:							
Douglas-------------	100	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
128C2:							
Douglas-------------	100	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
138+:							
Shiloh, overwash----	94	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
138A:							
Shiloh--------------	94	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
256C2:							
Pana----------------	95	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
259C2:							
Assumption----------	97	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
287A:							
Chauncey------------	100	Well suited		Well suited		Moderately suited	
						Low strength	0.50
385A:							
Mascoutah-----------	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
470B2:							
Keller--------------	100	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
515C2:							
Bunkum--------------	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
515C3:							
Bunkum	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
517A:							
Marine	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
517B:							
Marine	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
533:							
Urban land	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine	97	Not rated		Not rated		Not rated	
581B:							
Tamalco	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
581B2:							
Tamalco	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
582B:							
Homen	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
582C:							
Homen	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
582C2:							
Homen	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
583A:							
Pike	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
583B:							
Pike	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
583C2:							
Pike	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
583D2:							
Pike	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
680B:							
Campton	95	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
790A:							
Herrick	60	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Biddle	30	Well suited		Well suited		Moderately suited	
						Low strength	0.50
802B:							
Orthents, loamy	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
802E:							
Orthents, loamy	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
830:							
Landfills	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
871D:							
Lenzburg	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
871G:							
Lenzburg	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
882A:							
Oconee	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Darmstadt	29	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
882A:							
Coulterville--------	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
882B:							
Oconee--------------	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Darmstadt-----------	29	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Coulterville--------	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
882B2:							
Oconee--------------	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Darmstadt-----------	29	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Coulterville--------	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
885A:							
Virden--------------	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Fosterburg----------	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
894A:							
Herrick-------------	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Biddle--------------	35	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Piasa---------------	25	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
897C2:							
Bunkum--------------	50	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Atlas---------------	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Slope	0.50		

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
912B2:							
Hoyleton	60	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Darmstadt	34	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
991A:							
Cisne	55	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Huey	45	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
993A:							
Cowden	55	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Piasa	45	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
998F:							
Hickory	50	Moderately suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Negley	40	Moderately suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
3074A:							
Radford	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
3107A:							
Sawmill	92	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
3225A:							
Holton	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
3451A:							
Lawson	92	Well suited		Well suited		Moderately suited	
						Low strength	0.50
7242A:							
Kendall	88	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
7788B:							
Shoals	46	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Terril	44	Well suited		Well suited		Moderately suited	
						Low strength	0.50
8109A:							
Racoon	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 11d.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
2A:					
Cisne	90	Well suited		Well suited	
3A:					
Hoyleton	90	Well suited		Well suited	
3B:					
Hoyleton	90	Well suited		Well suited	
3B2:					
Hoyleton	90	Well suited		Well suited	
5C2:					
Blair	85	Well suited		Well suited	
5C3:					
Blair	85	Well suited		Well suited	
6B2:					
Fishhook	90	Well suited		Well suited	
6C2:					
Fishhook	90	Well suited		Well suited	
7C2:					
Atlas	90	Well suited		Well suited	
7C3:					
Atlas	90	Well suited		Well suited	
7D2:					
Atlas	90	Well suited		Well suited	
8D:					
Hickory	91	Well suited		Well suited	
8D2:					
Hickory	91	Well suited		Well suited	
8D3:					
Hickory	91	Well suited		Well suited	
8F:					
Hickory	91	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
8G:					
Hickory	91	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
12A:					
Wynoose	90	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
13A:					
Bluford	90	Well suited		Well suited	
13B:					
Bluford	90	Well suited		Well suited	
14B:					
Ava	90	Well suited		Well suited	
14C2:					
Ava	90	Well suited		Well suited	
15C2:					
Parke	90	Well suited		Well suited	
15D2:					
Parke	90	Well suited		Well suited	
31A:					
Pierron	90	Well suited		Well suited	
46A:					
Herrick	92	Well suited		Well suited	
48A:					
Ebbert	100	Well suited		Well suited	
50A:					
Virden	92	Well suited		Well suited	
112A:					
Cowden	94	Well suited		Well suited	
113A:					
Oconee	94	Well suited		Well suited	
113B:					
Oconee	90	Well suited		Well suited	
113B2:					
Oconee	90	Well suited		Well suited	
127A:					
Harrison	100	Well suited		Well suited	
127B:					
Harrison	100	Well suited		Well suited	
127B2:					
Harrison	100	Well suited		Well suited	
127C2:					
Harrison	96	Well suited		Well suited	
128B:					
Douglas	100	Well suited		Well suited	
128C2:					
Douglas	100	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
138+:					
Shiloh, overwash----	94	Well suited		Well suited	
138A:					
Shiloh--------------	94	Well suited		Well suited	
256C2:					
Pana----------------	95	Well suited		Well suited	
259C2:					
Assumption----------	97	Well suited		Well suited	
287A:					
Chauncey------------	100	Well suited		Well suited	
385A:					
Mascoutah-----------	90	Well suited		Well suited	
470B2:					
Keller--------------	100	Well suited		Well suited	
515C2:					
Bunkum--------------	90	Well suited		Well suited	
515C3:					
Bunkum--------------	90	Well suited		Well suited	
517A:					
Marine--------------	95	Well suited		Well suited	
517B:					
Marine--------------	90	Well suited		Well suited	
533:					
Urban land----------	90	Not rated		Not rated	
536:					
Dumps, mine---------	97	Not rated		Not rated	
581B:					
Tamalco-------------	90	Well suited		Well suited	
581B2:					
Tamalco-------------	85	Well suited		Well suited	
582B:					
Homen---------------	90	Well suited		Well suited	
582C:					
Homen---------------	90	Well suited		Well suited	
582C2:					
Homen---------------	90	Well suited		Well suited	
583A:					
Pike----------------	90	Well suited		Well suited	
583B:					
Pike----------------	90	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
583C2:					
Pike	90	Well suited		Well suited	
583D2:					
Pike	90	Well suited		Well suited	
680B:					
Campton	95	Well suited		Well suited	
790A:					
Herrick	60	Well suited		Well suited	
Biddle	30	Well suited		Well suited	
802B:					
Orthents, loamy	85	Well suited		Well suited	
802E:					
Orthents, loamy	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
830:					
Landfills	90	Not rated		Not rated	
835G:					
Earthen dam	95	Not rated		Not rated	
864:					
Pits, quarries	90	Not rated		Not rated	
871B:					
Lenzburg	85	Well suited		Well suited	
871D:					
Lenzburg	85	Well suited		Well suited	
871G:					
Lenzburg	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
882A:					
Oconee	40	Well suited		Well suited	
Darmstadt	29	Well suited		Well suited	
Coulterville	25	Well suited		Well suited	
882B:					
Oconee	40	Well suited		Well suited	
Darmstadt	29	Well suited		Well suited	
Coulterville	25	Well suited		Well suited	
882B2:					
Oconee	40	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
882B2:					
Darmstadt-----------	29	Well suited		Well suited	
Coulterville--------	25	Well suited		Well suited	
885A:					
Virden--------------	50	Well suited		Well suited	
Fosterburg----------	40	Well suited		Well suited	
894A:					
Herrick-------------	40	Well suited		Well suited	
Biddle--------------	35	Well suited		Well suited	
Piasa---------------	25	Well suited		Well suited	
897C2:					
Bunkum--------------	50	Well suited		Well suited	
Atlas---------------	40	Well suited		Well suited	
912B2:					
Hoyleton------------	60	Well suited		Well suited	
Darmstadt-----------	34	Well suited		Well suited	
991A:					
Cisne---------------	55	Well suited		Well suited	
Huey----------------	45	Well suited		Well suited	
993A:					
Cowden--------------	55	Well suited		Well suited	
Piasa---------------	45	Well suited		Well suited	
998F:					
Hickory-------------	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Negley--------------	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
3074A:					
Radford-------------	90	Well suited		Well suited	
3107A:					
Sawmill-------------	92	Well suited		Well suited	
3225A:					
Holton--------------	90	Well suited		Well suited	
3451A:					
Lawson--------------	92	Well suited		Well suited	
7242A:					
Kendall-------------	88	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7788B:					
Shoals	46	Well suited		Well suited	
Terril	44	Well suited		Well suited	
8109A:					
Racoon	90	Well suited		Well suited	

Table 11e.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value column range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality	
		Rating class and limiting features	Value
2A:			
Cisne	90	High	
		Wetness	1.00
3A:			
Hoyleton	90	Low	
3B:			
Hoyleton	90	Low	
3B2:			
Hoyleton	90	Low	
5C2:			
Blair	85	Low	
5C3:			
Blair	85	Low	
6B2:			
Fishhook	90	Low	
6C2:			
Fishhook	90	Low	
7C2:			
Atlas	90	High	
		Wetness	1.00
7C3:			
Atlas	90	High	
		Wetness	1.00
7D2:			
Atlas	90	High	
		Wetness	1.00
8D:			
Hickory	91	Low	
8D2:			
Hickory	91	Low	
8D3:			
Hickory	91	Low	
8F:			
Hickory	91	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
8G:			
Hickory	91	Low	
12A:			
Wynoose	90	High	
		Wetness	1.00
13A:			
Bluford	90	High	
		Wetness	1.00
13B:			
Bluford	90	High	
		Wetness	1.00
14B:			
Ava	90	Low	
14C2:			
Ava	90	Low	
15C2:			
Parke	90	Low	
15D2:			
Parke	90	Low	
31A:			
Pierron	90	High	
		Wetness	1.00
46A:			
Herrick	92	Low	
48A:			
Ebbert	100	High	
		Wetness	1.00
50A:			
Virden	92	High	
		Wetness	1.00
112A:			
Cowden	94	High	
		Wetness	1.00
113A:			
Oconee	94	High	
		Wetness	1.00
113B:			
Oconee	90	High	
		Wetness	1.00
113B2:			
Oconee	90	High	
		Wetness	1.00

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
127A:			
Harrison	100	Low	
127B:			
Harrison	100	Low	
127B2:			
Harrison	100	Low	
127C2:			
Harrison	96	Low	
128B:			
Douglas	100	Low	
128C2:			
Douglas	100	Low	
138+:			
Shiloh, overwash	94	High	
		Wetness	1.00
138A:			
Shiloh	94	High	
		Wetness	1.00
256C2:			
Pana	95	Low	
259C2:			
Assumption	97	Low	
287A:			
Chauncey	100	High	
		Wetness	1.00
385A:			
Mascoutah	90	High	
		Wetness	1.00
470B2:			
Keller	100	Low	
515C2:			
Bunkum	90	Low	
515C3:			
Bunkum	90	Low	
517A:			
Marine	95	High	
		Wetness	1.00
517B:			
Marine	90	High	
		Wetness	1.00

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
533:			
Urban land	90	Not rated	
536:			
Dumps, mine	97	Not rated	
581B:			
Tamalco	90	Low	
581B2:			
Tamalco	85	Low	
582B:			
Homen	90	Low	
582C:			
Homen	90	Low	
582C2:			
Homen	90	Low	
583A:			
Pike	90	Low	
583B:			
Pike	90	Low	
583C2:			
Pike	90	Low	
583D2:			
Pike	90	Low	
680B:			
Campton	95	Low	
790A:			
Herrick	60	Low	
Biddle	30	Low	
802B:			
Orthents, loamy	85	Low	
802E:			
Orthents, loamy	85	Moderate	
		Available water	0.50
830:			
Landfills	90	Not rated	
835G:			
Earthen dam	95	Not rated	
864:			
Pits, quarries	90	Not rated	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
871B:			
Lenzburg	85	Low	
871D:			
Lenzburg	85	Low	
871G:			
Lenzburg	85	Low	
882A:			
Oconee	40	High	
		Wetness	1.00
Darmstadt	29	High	
		Wetness	1.00
Coulterville	25	High	
		Wetness	1.00
882B:			
Oconee	40	High	
		Wetness	1.00
Darmstadt	29	High	
		Wetness	1.00
Coulterville	25	High	
		Wetness	1.00
882B2:			
Oconee	40	High	
		Wetness	1.00
Darmstadt	29	High	
		Wetness	1.00
Coulterville	25	High	
		Wetness	1.00
885A:			
Virden	50	High	
		Wetness	1.00
Fosterburg	40	High	
		Wetness	1.00
894A:			
Herrick	40	Low	
Biddle	35	Low	
Piasa	25	High	
		Wetness	1.00
897C2:			
Bunkum	50	Low	
Atlas	40	High	
		Wetness	1.00

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
912B2:			
Hoyleton	60	Low	
Darmstadt	34	High	
		Wetness	1.00
991A:			
Cisne	55	High	
		Wetness	1.00
Huey	45	High	
		Wetness	1.00
993A:			
Cowden	55	High	
		Wetness	1.00
Piasa	45	High	
		Wetness	1.00
998F:			
Hickory	50	Low	
Negley	40	Low	
3074A:			
Radford	90	Low	
3107A:			
Sawmill	92	High	
		Wetness	1.00
3225A:			
Holton	90	High	
		Wetness	1.00
3451A:			
Lawson	92	Low	
7242A:			
Kendall	88	High	
		Wetness	1.00
7788B:			
Shoals	46	High	
		Wetness	1.00
Terril	44	Low	
8109A:			
Racoon	90	High	
		Wetness	1.00

Table 12.--Forestland Productivity

(Only the soils commonly used for production of commercial trees are listed)

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
2A:				
Cisne	Bitternut hickory	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Black oak	---	---	
	Pin oak	70	57	
	White oak	---	---	
3A:				
Hoyleton	Bur oak	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
3B:				
Hoyleton	Bur oak	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
3B2:				
Hoyleton	Bur oak	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
5C2:				
Blair	Northern red oak	67	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Tuliptree	77	---	
	White oak	66	---	
5C3:				
Blair	Northern red oak	67	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Tuliptree	77	---	
	White oak	66	---	
6B2:				
Fishhook	White oak	70	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	70	57	
	Bur oak	---	---	
	Green ash	---	---	
6C2:				
Fishhook	White oak	70	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	70	57	
	Bur oak	---	---	
	Green ash	---	---	
7C2:				
Atlas	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak	70	57	
	Northern red oak	70	57	
	Green ash	---	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
7C3:				
Atlas	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak	70	57	
	Northern red oak	70	57	
	Green ash	---	---	
7D2:				
Atlas	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak	70	57	
	Northern red oak	70	57	
	Green ash	---	---	
8D:				
Hickory	Bitternut hickory	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
8D2:				
Hickory	Northern red oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak	85	72	
	Black oak	---	---	
	Green ash	---	---	
	Bitternut hickory	---	---	
	Tuliptree	---	---	
8D3:				
Hickory	Bitternut hickory	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
8F:				
Hickory	Bitternut hickory	---	---	Bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
8G:				
Hickory	Bitternut hickory	---	---	Bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
12A:				
Wynoose	Black oak	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	70	57	
	White oak	---	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
13A:				
Bluford	Bur oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	Southern red oak	70	57	
	White oak	70	57	
13B:				
Bluford	Bur oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	Southern red oak	70	57	
	White oak	70	57	
14B:				
Ava	Black walnut	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	75	57	
14C2:				
Ava	Black walnut	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	75	57	
15C2:				
Parke	Sweetgum	76	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Tuliptree	98	100	
	White oak	90	72	
15D2:				
Parke	Sweetgum	76	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Tuliptree	98	100	
	White oak	90	72	
31A:				
Pierron	Northern red oak	76	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	84	---	
	White oak	70	---	
112A:				
Cowden	Northern red oak	76	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	86	---	
	Tuliptree	84	---	
	White oak	72	---	
113A:				
Oconee	Northern red oak	78	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	87	---	
	Tuliptree	85	---	
	White oak	74	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
113B:				
Oconee	Northern red oak	77	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	86	---	
	Tuliptree	84	---	
	White oak	73	---	
113B2:				
Oconee	Northern red oak	74	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	83	---	
	Tuliptree	81	---	
	White oak	70	---	
515C2:				
Bunkum	White oak	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
515C3:				
Bunkum	Northern red oak	66	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak	63	---	
517A:				
Marine	Eastern cottonwood	103	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	77	---	
	Pin oak	92	---	
	Tuliptree	88	---	
	White oak	76	---	
517B:				
Marine	Eastern cottonwood	102	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	76	---	
	Pin oak	91	---	
	Tuliptree	87	---	
	White oak	75	---	
581B:				
Tamalco	Black oak	65	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	White oak	65	---	
581B2:				
Tamalco	Black oak	60	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	White oak	60	---	
582B:				
Homen	Northern red oak	85	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak	80	---	
582C:				
Homen	Northern red oak	79	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White ash	72	---	
	White oak	75	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
582C2:				
Homen	Northern red oak	79	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak	75	---	
583A:				
Pike	Eastern cottonwood	109	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	77	---	
	Tuliptree	96	---	
	White ash	77	---	
	White oak	75	---	
583B:				
Pike	Eastern cottonwood	109	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	77	---	
	Tuliptree	96	---	
	White ash	77	---	
	White oak	75	---	
583C2:				
Pike	Eastern cottonwood	101	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	72	---	
	Tuliptree	89	---	
	White ash	72	---	
	White oak	70	---	
583D2:				
Pike	Eastern cottonwood	101	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	72	---	
	Tuliptree	89	---	
	White ash	72	---	
	White oak	70	---	
680B:				
Campton	Northern red oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Shagbark hickory	---	---	
	Sugar maple	---	---	
	White oak	85	72	
871B:				
Lenzburg	Black walnut	73	---	Bur oak, chinkapin oak, eastern redcedar.
	Sweetgum	76	72	
	Eastern cottonwood	---	---	
871D:				
Lenzburg	Black walnut	73	---	Bur oak, chinkapin oak, eastern redcedar.
	Sweetgum	76	72	
	Eastern cottonwood	---	---	
871G:				
Lenzburg	Black walnut	73	---	Bur oak, chinkapin oak, eastern redcedar.
	Sweetgum	76	72	
	Eastern cottonwood	---	---	
882A:				
Oconee	Northern red oak	78	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	87	---	
	Tuliptree	85	---	
	White oak	74	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
882A:				
Darmstadt	Northern red oak	81	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	Tuliptree	71	---	
	White oak	69	---	
Coulterville	Northern red oak	87	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	80	---	
	Tuliptree	71	---	
	White oak	70	---	
882B:				
Oconee	Northern red oak	77	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	86	---	
	Tuliptree	84	---	
	White oak	73	---	
Darmstadt	Northern red oak	80	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	Pin oak	81	---	
	Tuliptree	72	---	
	White oak	68	---	
Coulterville	Northern red oak	86	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	79	---	
	Tuliptree	70	---	
	White oak	69	---	
882B2:				
Oconee	Northern red oak	74	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	83	---	
	Tuliptree	81	---	
	White oak	70	---	
Darmstadt	Eastern cottonwood	91	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	Northern red oak	80	---	
	Tuliptree	72	---	
	White oak	68	---	
Coulterville	Eastern cottonwood	88	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	86	---	
	Tuliptree	70	---	
	White oak	69	---	
894A:				
Herrick.				
Biddle.				
Piasa	Northern red oak	83	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	Pin oak	82	---	
	White oak	68	---	
897C2:				
Bunkum	White oak	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
897C2:				
Atlas	Bur oak	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Green ash	---	---	
	Northern red oak	70	57	
	White oak	70	57	
912B2:				
Hoyleton	Eastern cottonwood	99	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Northern red oak	72	---	
	Pin oak	87	---	
	Tuliptree	85	---	
	White oak	71	---	
Darmstadt	Northern red oak	74	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	Pin oak	75	---	
	Tuliptree	65	---	
	White oak	63	---	
991A:				
Cisne	Bitternut hickory	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Black oak	---	---	
	Pin oak	70	57	
	White oak	---	---	
Huey	Eastern cottonwood	89	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	Pin oak	81	---	
	Tuliptree	69	---	
993A:				
Cowden	Northern red oak	76	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	86	---	
	Tuliptree	84	---	
	White oak	72	---	
Piasa	Northern red oak	83	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
	Pin oak	82	---	
	White oak	68	---	
998F:				
Hickory	Bitternut hickory	---	---	Bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
Negley	Black cherry	---	---	Bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Black walnut	---	---	
	Northern red oak	94	72	
	Sugar maple	---	---	
	Tuliptree	99	100	
	White ash	---	---	
3074A:				
Radford	Pin oak	96	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	Sweetgum	86	100	
	Tuliptree	90	86	
	White ash	---	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
3107A:				
Sawmill	Pin oak	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	American sycamore	---	---	
	Eastern cottonwood	---	---	
	Sweetgum	---	---	
3225A:				
Holton	Black cherry	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	80	57	
	Pin oak	85	72	
	Sugar maple	80	57	
	Tuliptree	90	86	
	White ash	---	---	
	White oak	---	---	
3451A:				
Lawson	Silver maple	70	29	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White ash	---	---	
7242A:				
Kendall	Black walnut	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
7788B:				
Shoals	Pin oak	90	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Tuliptree	90	86	
	Eastern cottonwood	---	---	
	White ash	---	---	
Terril	Pin oak	96	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Eastern cottonwood	106	---	
8109A:				
Racoon	Eastern cottonwood	103	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	93	---	
	Tuliptree	91	---	

Table 13a.--Recreational Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne----------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98
3A:							
Hoyleton------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
3B:							
Hoyleton------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.12
3B2:							
Hoyleton------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.12
5C2:							
Blair----------------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Depth to saturated zone	0.88
						Slow water movement	0.21
5C3:							
Blair----------------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Depth to saturated zone	0.88
						Slow water movement	0.21
6B2:							
Fishhook------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
						Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
6C2:							
Fishhook------------	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slow water movement	0.96
7C2:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	1.00
7C3:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	1.00
7D2:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Slope	0.96	Slope	0.96	Slow water movement	1.00
8D:							
Hickory-------------	91	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
8D2:							
Hickory-------------	91	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
8D3:							
Hickory-------------	91	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
8F:							
Hickory-------------	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
8G:							
Hickory-------------	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
12A:							
Wynoose-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13A:							
Bluford-------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
13B:							
Bluford-------------	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Slope	0.12
14B:							
Ava-----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.12
						Depth to saturated zone	0.07
14C2:							
Ava-----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slow water movement	0.21
		Slope	0.01	Slope	0.01	Depth to saturated zone	0.07
15C2:							
Parke---------------	90	Not limited		Not limited		Very limited	
						Slope	1.00
15D2:							
Parke---------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
31A:							
Pierron-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
46A:							
Herrick-------------	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
48A:							
Ebbert	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
50A:							
Virden	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
112A:							
Cowden	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
113A:							
Oconee	94	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
113B:							
Oconee	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
113B2:							
Oconee	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
127A:							
Harrison	100	Not limited		Not limited		Not limited	
127B:							
Harrison	100	Not limited		Not limited		Somewhat limited	
						Slope	0.28
127B2:							
Harrison	100	Not limited		Not limited		Somewhat limited	
						Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
127C2:							
Harrison	96	Not limited		Not limited		Very limited	
						Slope	1.00
128B:							
Douglas	100	Not limited		Not limited		Somewhat limited	
						Slope	0.28
128C2:							
Douglas	100	Not limited		Not limited		Very limited	
						Slope	1.00
138+:							
Shiloh, overwash	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
138A:							
Shiloh	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
256C2:							
Pana	95	Not limited		Not limited		Very limited	
						Slope	1.00
259C2:							
Assumption	97	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
						Slow water movement	0.96
287A:							
Chauncey	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
385A:							
Mascoutah	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
470B2:							
Keller	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
						Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
515C2:							
Bunkum	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Depth to saturated zone	0.98
						Slow water movement	0.21
515C3:							
Bunkum	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Depth to saturated zone	0.98
						Slow water movement	0.21
517A:							
Marine	95	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
517B:							
Marine	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
533:							
Urban land	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine	97	Not rated		Not rated		Not rated	
581B:							
Tamalco	90	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.28
581B2:							
Tamalco	85	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Slope	0.28
582B:							
Homen	90	Not limited		Not limited		Somewhat limited	
						Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
582C:							
Homen----------------	90	Not limited		Not limited		Very limited	
						Slope	1.00
582C2:							
Homen----------------	90	Not limited		Not limited		Very limited	
						Slope	1.00
583A:							
Pike-----------------	90	Not limited		Not limited		Not limited	
583B:							
Pike-----------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.28
583C2:							
Pike-----------------	90	Not limited		Not limited		Very limited	
						Slope	1.00
583D2:							
Pike-----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
680B:							
Campton--------------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.28
790A:							
Herrick--------------	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Biddle---------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
802B:							
Orthents, loamy------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	0.50
						Slow water movement	0.21
802E:							
Orthents, loamy------	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
830:							
Landfills------------	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam----------	95	Not rated		Not rated		Not rated	

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	0.50
						Slow water movement	0.21
						Gravel	0.02
871D:							
Lenzburg------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Gravel	0.02
871G:							
Lenzburg------------	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Gravel	0.02
882A:							
Oconee--------------	40	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
Darmstadt-----------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Sodium content	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Slow water movement	1.00	Sodium content	1.00
		Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement	1.00
Coulterville--------	25	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
882B:							
Oconee--------------	40	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
Darmstadt-----------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Sodium content	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Slow water movement	1.00	Sodium content	1.00
		Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement	1.00
						Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
882B:							
Coulterville--------	25	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
882B2:							
Oconee--------------	40	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
Darmstadt-----------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Sodium content	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Slow water movement	1.00	Sodium content	1.00
		Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement	1.00
						Slope	0.28
Coulterville--------	25	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
		Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
						Slope	0.28
885A:							
Virden--------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Fosterburg----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
894A:							
Herrick-------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Biddle--------------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
894A:							
Piasa	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Ponding	1.00	Sodium content	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
897C2:							
Bunkum	50	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Depth to saturated zone	0.98
						Slow water movement	0.21
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	1.00
912B2:							
Hoyleton	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
						Slope	0.28
Darmstadt	34	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Sodium content	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Slow water movement	1.00	Sodium content	1.00
		Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement	1.00
						Slope	0.28
991A:							
Cisne	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
993A:							
Cowden	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
Piasa	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Sodium content	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Ponding	1.00	Sodium content	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
998F:							
Hickory	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
Negley	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
3074A:							
Radford	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3107A:							
Sawmill	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Ponding	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
3225A:							
Holton	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
3451A:							
Lawson	92	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
7242A:							
Kendall	88	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00				
7788B:							
Shoals	46	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00				

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7788B:							
Terril	44	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.12
8109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Slow water movement	0.96	Slow water movement	0.96
		Slow water movement	0.96			Flooding	0.60

Table 13b.--Recreational Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
2A:							
Cisne	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
3A:							
Hoyleton	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
3B:							
Hoyleton	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
3B2:							
Hoyleton	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
5C2:							
Blair	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
5C3:							
Blair	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
6B2:							
Fishhook	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
6C2:							
Fishhook	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
7C2:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
7C3:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
7D2:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.96
8D:							
Hickory	91	Not limited		Not limited		Somewhat limited	
						Slope	0.96
8D2:							
Hickory	91	Not limited		Not limited		Somewhat limited	
						Slope	0.96
8D3:							
Hickory	91	Not limited		Not limited		Somewhat limited	
						Slope	0.96
8F:							
Hickory	91	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.02	Too steep	1.00
8G:							
Hickory	91	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep	1.00
12A:							
Wynoose	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
13A:							
Bluford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
13B:							
Bluford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
14B:							
Ava	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
14C2:							
Ava	90	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
						Slope	0.01
15C2:							
Parke	90	Not limited		Not limited		Not limited	
15D2:							
Parke	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
31A:							
Pierron	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
46A:							
Herrick	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
48A:							
Ebbert	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
50A:							
Virden	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
112A:							
Cowden	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
113A:							
Oconee	94	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
113B:							
Oconee	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
113B2:							
Oconee	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
127A:							
Harrison	100	Not limited		Not limited		Not limited	
127B:							
Harrison	100	Not limited		Not limited		Not limited	
127B2:							
Harrison	100	Not limited		Not limited		Not limited	
127C2:							
Harrison	96	Not limited		Not limited		Not limited	
128B:							
Douglas	100	Not limited		Not limited		Not limited	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
128C2:							
Douglas	100	Not limited		Not limited		Not limited	
138+:							
Shiloh, overwash	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
138A:							
Shiloh	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
256C2:							
Pana	95	Not limited		Not limited		Not limited	
259C2:							
Assumption	97	Not limited		Not limited		Not limited	
287A:							
Chauncey	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
385A:							
Mascoutah	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
470B2:							
Keller	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
515C2:							
Bunkum	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
515C3:							
Bunkum	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
517A:							
Marine	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
517B:							
Marine	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
533:							
Urban land	90	Not rated		Not rated		Not rated	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
536:							
Dumps, mine	97	Not rated		Not rated		Not rated	
581B:							
Tamalco	90	Not limited		Not limited		Very limited	
						Sodium content	1.00
						Depth to saturated zone	0.19
581B2:							
Tamalco	85	Not limited		Not limited		Very limited	
						Sodium content	1.00
						Depth to saturated zone	0.19
582B:							
Homen	90	Not limited		Not limited		Not limited	
582C:							
Homen	90	Not limited		Not limited		Not limited	
582C2:							
Homen	90	Not limited		Not limited		Not limited	
583A:							
Pike	90	Not limited		Not limited		Not limited	
583B:							
Pike	90	Not limited		Not limited		Not limited	
583C2:							
Pike	90	Not limited		Not limited		Not limited	
583D2:							
Pike	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96
680B:							
Campton	95	Not limited		Not limited		Not limited	
790A:							
Herrick	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Biddle	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
802B:							
Orthents, loamy	85	Not limited		Not limited		Very limited	
						Too dense	1.00
802E:							
Orthents, loamy	85	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Too dense	1.00
		Slope	0.68			Too steep	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
830:							
Landfills-----------	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam---------	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg------------	85	Not limited		Not limited		Somewhat limited	
						Large stones	0.01
871D:							
Lenzburg------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.96
						Large stones	0.01
871G:							
Lenzburg------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep	1.00
						Large stones	0.01
882A:							
Oconee--------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
Darmstadt-----------	29	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Sodium content	1.00
						Depth to saturated zone	0.94
Coulterville--------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
882B:							
Oconee--------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
Darmstadt-----------	29	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Sodium content	1.00
						Depth to saturated zone	0.94
Coulterville--------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
882B2:							
Oconee--------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
Darmstadt-----------	29	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Sodium content	1.00
						Depth to saturated zone	0.94

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
882B2:							
Coulterville--------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
885A:							
Virden--------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Fosterburg----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
894A:							
Herrick-------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Biddle--------------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Piasa---------------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Sodium content	1.00
						Depth to saturated zone	1.00
897C2:							
Bunkum--------------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Atlas---------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
912B2:							
Hoyleton------------	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
Darmstadt-----------	34	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Sodium content	1.00
						Depth to saturated zone	0.94
991A:							
Cisne---------------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
991A:							
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Ponding	1.00
993A:							
Cowden	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Piasa	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Sodium content	1.00
						Depth to saturated zone	1.00
998F:							
Hickory	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.04	Too steep	1.00
Negley	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.04	Too steep	1.00
3074A:							
Radford	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3107A:							
Sawmill	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40	Ponding	1.00
3225A:							
Holton	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.94
3451A:							
Lawson	92	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
7242A:							
Kendall	88	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
7788B:							
Shoals	46	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
Terril	44	Not limited		Not limited		Not limited	
8109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Flooding	0.60

Table 14.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
2A:										
Cisne	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3A:										
Hoyleton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
3B:										
Hoyleton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
3B2:										
Hoyleton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
5C2:										
Blair	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
5C3:										
Blair	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
6B2:										
Fishhook	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
6C2:										
Fishhook	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7C2:										
Atlas	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
7C3:										
Atlas	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
7D2:										
Atlas	Fair	Good	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
8D:										
Hickory	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
8D2:										
Hickory	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
8D3:										
Hickory	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
8F:										
Hickory	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
8G: Hickory	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
12A: Wynoose	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
13A: Bluford	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
13B: Bluford	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
14B: Ava	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
14C2: Ava	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
15C2: Parke	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
15D2: Parke	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
31A: Pierron	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
46A: Herrick	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
48A: Ebbert	Poor	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
50A: Virden	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
112A: Cowden	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
113A: Oconee	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
113B: Oconee	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
113B2: Oconee	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
127A: Harrison	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
127B:										
Harrison----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
127B2:										
Harrison----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
127C2:										
Harrison----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
128B:										
Douglas-----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
128C2:										
Douglas-----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
138+:										
Shiloh, overwash--	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
138A:										
Shiloh------------	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
256C2:										
Pana--------------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
259C2:										
Assumption--------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
287A:										
Chauncey----------	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
385A:										
Mascoutah---------	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
470B2:										
Keller------------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
515C2:										
Bunkum------------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
515C3:										
Bunkum------------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
517A:										
Marine------------	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
517B:										
Marine------------	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
533.										
Urban land										

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
536. Dumps, mine										
581B: Tamalco	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
581B2: Tamalco	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
582B: Homen	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
582C: Homen	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
582C2: Homen	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
583A: Pike	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
583B: Pike	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
583C2: Pike	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
583D2: Pike	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
680B: Campton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
790A: Herrick	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Biddle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
802B: Orthents, loamy	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
802E: Orthents, loamy	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
830. Landfills										
835G. Earthen dam										

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
864. Pits, quarries										
871B:										
Lenzburg	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
871D:										
Lenzburg	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
871G:										
Lenzburg	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
882A:										
Oconee	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
Darmstadt	Fair	Good	Very poor.	Good	Good	Fair	Fair	Fair	Fair	Fair.
Coulterville	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
882B:										
Oconee	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Darmstadt	Fair	Good	Very poor.	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
Coulterville	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
882B2:										
Oconee	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Darmstadt	Fair	Good	Very poor.	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
Coulterville	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
885A:										
Virden	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
Fosterburg	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
894A:										
Herrick	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Biddle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Piasa	Poor	Fair	Very poor.	Fair	Poor	Good	Good	Poor	Fair	Good.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
897C2:										
Bunkum	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Atlas	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
912B2:										
Hoyleton	Fair	Good	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Darmstadt	Fair	Good	Very poor.	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
991A:										
Cisne	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
Huey	Poor	Fair	Very poor.	Fair	Poor	Good	Good	Poor	Fair	Good.
993A:										
Cowden	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
Piasa	Poor	Fair	Very poor.	Fair	Poor	Good	Good	Poor	Fair	Good.
998F:										
Hickory	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Negley	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
3074A:										
Radford	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3107A:										
Sawmill	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3225A:										
Holton	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3451A:										
Lawson	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
7242A:										
Kendall	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
7788B:										
Shoals	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
Terril	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8109A:										
Racoon	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.

Table 15a.--Building Site Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
2A:							
Cisne---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Ponding	1.00	Shrink-swell	1.00
		Ponding	1.00	Shrink-swell	0.01	Ponding	1.00
3A:							
Hoyleton------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.88			Depth to saturated zone	0.88
3B:							
Hoyleton------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
3B2:							
Hoyleton------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
5C2:							
Blair---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Slope	0.97
						Depth to saturated zone	0.88
5C3:							
Blair---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Slope	0.97
						Depth to saturated zone	0.88
6B2:							
Fishhook------------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
6C2:							
Fishhook------------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	1.00	Slope	0.97
						Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
7C2:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.97
7C3:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.97
7D2:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
		Slope	0.96	Slope	0.96	Shrink-swell	1.00
8D:							
Hickory	91	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8D2:							
Hickory	91	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8D3:							
Hickory	91	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8F:							
Hickory	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8G:							
Hickory	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
12A:							
Wynoose	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Ponding	1.00	Shrink-swell	1.00
		Ponding	1.00	Shrink-swell	0.06	Ponding	1.00
13A:							
Bluford	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
13B:							
Bluford	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
14B:							
Ava	90	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.14	Depth to saturated zone	1.00	Shrink-swell	0.14
		Depth to saturated zone	0.07	Shrink-swell	0.14	Depth to saturated zone	0.07
14C2:							
Ava	90	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.14	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.07	Shrink-swell	0.14	Shrink-swell	0.14
		Slope	0.01	Slope	0.01	Depth to saturated zone	0.07
15C2:							
Parke	90	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Slope	0.97
						Shrink-swell	0.50
15D2:							
Parke	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
31A:							
Pierron	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
46A:							
Herrick	92	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
48A:							
Ebbert	100	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
50A:							
Virden	92	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
112A:							
Cowden	94	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
113A:							
Oconee	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
113B:							
Oconee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
113B2:							
Oconee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
127A:							
Harrison	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
127B:							
Harrison	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
127B2:							
Harrison	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
127C2:							
Harrison	96	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	0.97
						Shrink-swell	0.50
				Shrink-swell	0.50		
128B:							
Douglas	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
128C2:							
Douglas	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
						Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
138+:							
Shiloh, overwash----	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
138A:							
Shiloh-------------	94	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
256C2:							
Pana---------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
						Shrink-swell	0.50
259C2:							
Assumption---------	97	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	0.99	Slope	0.97
287A:							
Chauncey-----------	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Shrink-swell	1.00		
385A:							
Mascoutah----------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
470B2:							
Keller-------------	100	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
515C2:							
Bunkum-------------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
						Shrink-swell	0.50
515C3:							
Bunkum-------------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
						Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
517A:							
Marine	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
517B:							
Marine	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
533:							
Urban land	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine	97	Not rated		Not rated		Not rated	
581B:							
Tamalco	90	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
581B2:							
Tamalco	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
582B:							
Homen	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
582C:							
Homen	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	0.97
				Shrink-swell	0.50	Shrink-swell	0.50
582C2:							
Homen	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	0.97
				Shrink-swell	0.50	Shrink-swell	0.50
583A:							
Pike	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
583B:							
Pike	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
583C2:							
Pike	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
						Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
583D2:							
Pike----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
680B:							
Campton-------------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
790A:							
Herrick-------------	60	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
Biddle--------------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
802B:							
Orthents, loamy-----	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
802E:							
Orthents, loamy-----	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
830:							
Landfills-----------	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam---------	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
871D:							
Lenzburg------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
871G:							
Lenzburg------------	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
882A:							
Oconee--------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
882A:							
Darmstadt-----------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Coulterville--------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
882B:							
Oconee--------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Darmstadt-----------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Coulterville--------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
882B2:							
Oconee--------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Darmstadt-----------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Coulterville--------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
885A:							
Virden--------------	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Fosterburg----------	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
894A:							
Herrick	40	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
Biddle	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
Piasa	25	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
897C2:							
Bunkum	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
						Shrink-swell	0.50
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.97
912B2:							
Hoyleton	60	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.88			Depth to saturated zone	0.88
Darmstadt	34	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
991A:							
Cisne	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Ponding	1.00	Shrink-swell	1.00
		Ponding	1.00	Shrink-swell	0.01	Ponding	1.00
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.62	Shrink-swell	0.62	Shrink-swell	0.62
993A:							
Cowden	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
993A:							
Piasa	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
998F:							
Hickory	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Negley	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3074A:							
Radford	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
3107A:							
Sawmill	92	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3225A:							
Holton	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3451A:							
Lawson	92	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
7242A:							
Kendall	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
7788B:							
Shoals	46	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Terril	44	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
8109A:							
Racoon--------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Shrink-swell	0.68		

Table 15b.--Building Site Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Ponding	1.00				
3A:							
Hoyleton	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.56				
3B:							
Hoyleton	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.19				
3B2:							
Hoyleton	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.19				
5C2:							
Blair	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.56				
5C3:							
Blair	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.56				
6B2:							
Fishhook	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
6C2:							
Fishhook------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
7C2:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				
7C3:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				
7D2:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Slope	0.96	Slope	0.96
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Too clayey	0.01		
		Slope	0.96				
8D:							
Hickory-------------	91	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Slope	0.96	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
8D2:							
Hickory-------------	91	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Slope	0.96	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
8D3:							
Hickory-------------	91	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Slope	0.96	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
8F:							
Hickory-------------	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8G:							
Hickory-------------	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
12A:							
Wynoose-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Too clayey	0.01		
		Ponding	1.00				
13A:							
Bluford-------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00				
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94	Too clayey	0.01		
13B:							
Bluford-------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00				
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94	Too clayey	0.01		
14B:							
Ava-----------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Low strength	1.00				
		Shrink-swell	0.14	Cutbanks cave	0.10		
		Depth to saturated zone	0.03				
14C2:							
Ava-----------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Low strength	1.00				
		Shrink-swell	0.14	Cutbanks cave	0.10	Slope	0.01
		Depth to saturated zone	0.03	Slope	0.01		
		Slope	0.01				
15C2:							
Parke---------------	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
15D2:							
Parke	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Slope	0.96	Slope	0.96
		Low strength	1.00	Cutbanks cave	0.10		
		Slope	0.96				
		Shrink-swell	0.50				
31A:							
Pierron	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				
46A:							
Herrick	92	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.75				
48A:							
Ebbert	100	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
50A:							
Virden	92	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
112A:							
Cowden	94	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
113A:							
Oconee	94	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
113B:							
Oconee--------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
113B2:							
Oconee--------------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
127A:							
Harrison------------	100	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
127B:							
Harrison------------	100	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
127B2:							
Harrison------------	100	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
127C2:							
Harrison------------	96	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
128B:							
Douglas-------------	100	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
128C2:							
Douglas-------------	100	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
138+:							
Shiloh, overwash----	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
138A:							
Shiloh	94	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
256C2:							
Pana	95	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
259C2:							
Assumption	97	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00				
		Shrink-swell	1.00	Cutbanks cave	0.10		
287A:							
Chauncey	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.22				
385A:							
Mascoutah	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
470B2:							
Keller	100	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00				
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Shrink-swell	0.50				
515C2:							
Bunkum	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00				
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Shrink-swell	0.50				
515C3:							
Bunkum	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00				
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
517A:							
Marine	95	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
517B:							
Marine	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
533:							
Urban land	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine	97	Not rated		Not rated		Not rated	
581B:							
Tamalco	90	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Shrink-swell	0.50			Depth to saturated zone	0.19
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.19				
581B2:							
Tamalco	85	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Shrink-swell	0.50			Depth to saturated zone	0.19
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.19				
582B:							
Homen	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00				
		Shrink-swell	0.50	Cutbanks cave	0.10		
582C:							
Homen	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00				
		Shrink-swell	0.50	Cutbanks cave	0.10		
582C2:							
Homen	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00				
		Shrink-swell	0.50	Cutbanks cave	0.10		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
583A:							
Pike----------------	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
583B:							
Pike----------------	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
583C2:							
Pike----------------	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
583D2:							
Pike----------------	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Slope	0.96	Slope	0.96
		Low strength	1.00	Cutbanks cave	0.10		
		Slope	0.96				
		Shrink-swell	0.50				
680B:							
Campton-------------	95	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00				
		Shrink-swell	0.50	Cutbanks cave	0.10		
790A:							
Herrick-------------	60	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00				
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
Biddle--------------	30	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00				
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
802B:							
Orthents, loamy-----	85	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Cutbanks cave	0.10	Too dense	1.00
		Shrink-swell	0.50				
		Frost action	0.50				
802E:							
Orthents, loamy-----	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too dense	1.00
		Low strength	1.00	Cutbanks cave	0.10	Too steep	1.00
		Shrink-swell	0.50				
		Frost action	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
830:							
Landfills	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Cutbanks cave	0.10	Large stones	0.01
		Shrink-swell	0.50				
		Frost action	0.50				
871D:							
Lenzburg	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Slope	0.96	Cutbanks cave	0.10	Large stones	0.01
		Shrink-swell	0.50				
		Frost action	0.50				
871G:							
Lenzburg	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Low strength	1.00	Cutbanks cave	0.10	Large stones	0.01
		Shrink-swell	0.50				
		Frost action	0.50				
882A:							
Oconee	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
Darmstadt	29	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Low strength	1.00	Cutbanks cave	0.10	Depth to saturated zone	0.94
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				
Coulterville	25	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				
882B:							
Oconee	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
882B:							
Darmstadt	29	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Low strength	1.00	Cutbanks cave	0.10	Depth to saturated zone	0.94
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				
Coulterville	25	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				
882B2:							
Oconee	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.94				
Darmstadt	29	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Low strength	1.00	Cutbanks cave	0.10	Depth to saturated zone	0.94
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				
Coulterville	25	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				
885A:							
Virden	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
Fosterburg	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
894A:							
Herrick	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.75				
Biddle	35	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.75				
Piasa	25	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Frost action	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
		Low strength	1.00				
		Shrink-swell	1.00				
897C2:							
Bunkum	50	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
Atlas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Too clayey	0.01		
		Shrink-swell	1.00				
912B2:							
Hoyleton	60	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.56				
Darmstadt	34	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Low strength	1.00	Cutbanks cave	0.10	Depth to saturated zone	0.94
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
991A:							
Cisne	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Ponding	1.00				
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10	Ponding	1.00
		Ponding	1.00				
		Shrink-swell	0.62				
993A:							
Cowden	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
Piasa	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Frost action	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
		Low strength	1.00				
		Shrink-swell	1.00				
998F:							
Hickory	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
Negley	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Frost action	0.50				
3074A:							
Radford	90	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
3107A:							
Sawmill	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
3225A:							
Holton	90	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Cutbanks cave	0.10		
3451A:							
Lawson	92	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
7242A:							
Kendall	88	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94				
		Shrink-swell	0.50				
		Flooding	0.40				
7788B:							
Shoals	46	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.94				
		Flooding	0.40				
Terril	44	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.35		
		Flooding	0.40	Cutbanks cave	0.10		
8109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				

Table 16a.--Sanitary Facilities

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
2A:					
Cisne	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00		
3A:					
Hoyleton	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
3B:					
Hoyleton	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
3B2:					
Hoyleton	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
5C2:					
Blair	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
5C3:					
Blair	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
6B2:					
Fishhook	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
6C2:					
Fishhook------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.53
7C2:					
Atlas---------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
7C3:					
Atlas---------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
7D2:					
Atlas---------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.96		
8D:					
Hickory-------------	91	Somewhat limited		Very limited	
		Slope	0.96	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
8D2:					
Hickory-------------	91	Somewhat limited		Very limited	
		Slope	0.96	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
8D3:					
Hickory-------------	91	Somewhat limited		Very limited	
		Slope	0.96	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
8F:					
Hickory-------------	91	Very limited		Very limited	
		Too steep	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.53
8G:					
Hickory-------------	91	Very limited		Very limited	
		Too steep	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
12A:					
Wynoose-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00		
13A:					
Bluford-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
13B:					
Bluford-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.08
14B:					
Ava-----------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.44
				Slope	0.08
14C2:					
Ava-----------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.44
		Slope	0.01		
15C2:					
Parke---------------	90	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
				Seepage	0.53
15D2:					
Parke---------------	90	Somewhat limited		Very limited	
		Slope	0.96	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
31A:					
Pierron-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
46A:					
Herrick	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
48A:					
Ebbert	100	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
50A:					
Virden	92	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
112A:					
Cowden	94	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
113A:					
Oconee	94	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
113B:					
Oconee	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
113B2:					
Oconee	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
127A:					
Harrison	100	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.04

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
127B:					
Harrison	100	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.18
		Depth to saturated zone	1.00	Depth to saturated zone	0.04
127B2:					
Harrison	100	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.18
		Depth to saturated zone	1.00	Depth to saturated zone	0.04
127C2:					
Harrison	96	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.04
128B:					
Douglas	100	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.18
		Slow water movement	0.46		
128C2:					
Douglas	100	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
		Slow water movement	0.46		
138+:					
Shiloh, overwash	94	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
138A:					
Shiloh	94	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
256C2:					
Pana	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	0.53
		Slow water movement	0.46		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
259C2:					
Assumption	97	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Depth to saturated zone	0.04
287A:					
Chauncey	100	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
385A:					
Mascoutah	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
470B2:					
Keller	100	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.18
515C2:					
Bunkum	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
515C3:					
Bunkum	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
517A:					
Marine	95	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
517B:					
Marine	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
533:					
Urban land----------	90	Not rated		Not rated	
536:					
Dumps, mine---------	97	Not rated		Not rated	
581B:					
Tamalco-------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Slope	0.18
581B2:					
Tamalco-------------	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Slope	0.18
582B:					
Homen---------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.18
		Depth to saturated zone	1.00	Depth to saturated zone	0.04
582C:					
Homen---------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.04
582C2:					
Homen---------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.04
583A:					
Pike----------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
583B:					
Pike----------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.18
583C2:					
Pike----------------	90	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
				Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
583D2:					
Pike	90	Somewhat limited		Very limited	
		Slope	0.96	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
680B:					
Campton	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
				Slope	0.18
790A:					
Herrick	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
Biddle	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
802B:					
Orthents, loamy	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
802E:					
Orthents, loamy	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Too steep	1.00		
830:					
Landfills	90	Not rated		Not rated	
835G:					
Earthen dam	95	Not rated		Not rated	
864:					
Pits, quarries	90	Not rated		Not rated	
871B:					
Lenzburg	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
871D:					
Lenzburg	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.96		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
871G:					
Lenzburg	85	Very limited		Very limited	
		Too steep	1.00	Slope	1.00
		Slow water movement	1.00		
882A:					
Oconee	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
Darmstadt	29	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
Coulterville	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
882B:					
Oconee	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
Darmstadt	29	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
Coulterville	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
882B2:					
Oconee	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
Darmstadt	29	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
882B2:					
Coulterville	25	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
885A:					
Virden	50	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
Fosterburg	40	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
894A:					
Herrick	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
Biddle	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
Piasa	25	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
897C2:					
Bunkum	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
Atlas	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
912B2:					
Hoyleton------------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.18
Darmstadt-----------	34	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.18
991A:					
Cisne---------------	55	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00		
Huey----------------	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00		
993A:					
Cowden--------------	55	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
Piasa---------------	45	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
998F:					
Hickory-------------	50	Very limited		Very limited	
		Too steep	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Negley--------------	40	Very limited		Very limited	
		Too steep	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
3074A:					
Radford	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
3107A:					
Sawmill	92	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.46	Seepage	0.53
3225A:					
Holton	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
3451A:					
Lawson	92	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
7242A:					
Kendall	88	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
				Flooding	0.40
		Flooding	0.40		
7788B:					
Shoals	46	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
				Flooding	0.40
		Flooding	0.40		
Terril	44	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.84	Seepage	0.53
				Flooding	0.40
		Slow water movement	0.46	Depth to saturated zone	0.17
		Flooding	0.40	Slope	0.08

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
8109A:					
Racoon--------------	90	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53

Table 16b.--Sanitary Facilities

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Too clayey	0.50			Too clayey	0.50
3A:							
Hoyleton	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Too clayey	0.50
3B:							
Hoyleton	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
3B2:							
Hoyleton	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
5C2:							
Blair	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
5C3:							
Blair	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
6B2:							
Fishhook	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	0.50			Depth to saturated zone	1.00
						Too clayey	0.50
6C2:							
Fishhook	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
7C2:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
7C3:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
7D2:							
Atlas	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.96	Too clayey	1.00
		Slope	0.96			Hard to compact	1.00
						Slope	0.96
8D:							
Hickory	91	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Too clayey	0.50			Too clayey	0.50
8D2:							
Hickory	91	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Too clayey	0.50			Too clayey	0.50
8D3:							
Hickory	91	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Too clayey	0.50			Too clayey	0.50
8F:							
Hickory	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Too clayey	0.50			Too clayey	0.50
8G:							
Hickory	91	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Too clayey	0.50			Too clayey	0.50
12A:							
Wynoose	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Too clayey	0.50			Too clayey	0.50
13A:							
Bluford	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
13B:							
Bluford	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
14B:							
Ava	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
		Too clayey	0.50			Too clayey	0.50
14C2:							
Ava	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
		Too clayey	0.50	Slope	0.01	Too clayey	0.50
		Slope	0.01			Slope	0.01
15C2:							
Parke	90	Not limited		Not limited		Not limited	
15D2:							
Parke	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
31A:							
Pierron	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
46A:							
Herrick	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
48A:							
Ebbert	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
50A:							
Virden	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
112A:							
Cowden	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
113A:							
Oconee	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
113B:							
Oconee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
113B2:							
Oconee	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
127A:							
Harrison	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24
127B:							
Harrison	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24
127B2:							
Harrison	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24
127C2:							
Harrison	96	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24
128B:							
Douglas	100	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50			Seepage	0.22
128C2:							
Douglas	100	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50			Seepage	0.22

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
138+:							
Shiloh, overwash----	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Too clayey	0.50
138A:							
Shiloh--------------	94	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
256C2:							
Pana----------------	95	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
259C2:							
Assumption----------	97	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24
287A:							
Chauncey------------	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
385A:							
Mascoutah-----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
470B2:							
Keller--------------	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
515C2:							
Bunkum--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
515C3:							
Bunkum--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
517A:							
Marine--------------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
517B:							
Marine--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
533:							
Urban land----------	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine---------	97	Not rated		Not rated		Not rated	
581B:							
Tamalco-------------	90	Very limited		Somewhat limited		Very limited	
		Excess sodium	1.00	Depth to saturated zone	0.75	Sodium content	1.00
		Depth to saturated zone	1.00			Depth to saturated zone	0.86
						Too clayey	0.50
581B2:							
Tamalco-------------	85	Very limited		Somewhat limited		Very limited	
		Excess sodium	1.00	Depth to saturated zone	0.75	Sodium content	1.00
		Depth to saturated zone	1.00			Depth to saturated zone	0.86
						Too clayey	0.50
582B:							
Homen---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
						Depth to saturated zone	0.24
582C:							
Homen---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
						Depth to saturated zone	0.24
582C2:							
Homen---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24
583A:							
Pike----------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
583B:							
Pike----------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
583C2:							
Pike----------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
583D2:							
Pike----------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Too clayey	0.50			Too clayey	0.50
680B:							
Campton-------------	95	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24
790A:							
Herrick-------------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Biddle--------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
802B:							
Orthents, loamy-----	85	Not limited		Not limited		Not limited	
802E:							
Orthents, loamy-----	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
830:							
Landfills-----------	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam---------	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg------------	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
871D:							
Lenzburg------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Too clayey	0.50			Too clayey	0.50
871G:							
Lenzburg------------	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
882A:							
Oconee	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Darmstadt	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00			Sodium content	1.00
Coulterville	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
882B:							
Oconee	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Darmstadt	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00			Sodium content	1.00
Coulterville	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
882B2:							
Oconee	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Darmstadt	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00			Sodium content	1.00
Coulterville	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
885A:							
Virden	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
885A:							
Fosterburg----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
894A:							
Herrick-------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Biddle--------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Piasa---------------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00			Hard to compact	1.00
		Too clayey	0.50			Sodium content	1.00
						Too clayey	0.50
897C2:							
Bunkum--------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Atlas---------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
912B2:							
Hoyleton------------	60	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Darmstadt-----------	34	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00			Sodium content	1.00
991A:							
Cisne---------------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
991A:							
Huey	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00	Ponding	1.00	Sodium content	1.00
		Ponding	1.00			Ponding	1.00
		Too clayey	0.50			Too clayey	0.50
993A:							
Cowden	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Piasa	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Excess sodium	1.00			Hard to compact	1.00
		Too clayey	0.50			Sodium content	1.00
						Too clayey	0.50
998F:							
Hickory	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Too clayey	0.50			Too clayey	0.50
Negley	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too clayey	0.50
		Too clayey	0.50			Seepage	0.22
3074A:							
Radford	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
3107A:							
Sawmill	92	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Too clayey	0.50
		Too clayey	0.50				
3225A:							
Holton	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
3451A:							
Lawson	92	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
7242A:							
Kendall	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				
7788B:							
Shoals	46	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
Terril	44	Very limited		Very limited		Not limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Flooding	0.40	Flooding	0.40		
8109A:							
Racoon	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				

Table 17a.--Construction Materials

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value column range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential as source of sand: Rating class	Value
2A:			
Cisne	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
3A:			
Hoyleton	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
3B:			
Hoyleton	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
3B2:			
Hoyleton	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
5C2:			
Blair	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
5C3:			
Blair	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
6B2:			
Fishhook	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
6C2:			
Fishhook	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
7C2:			
Atlas	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand: Rating class	Value
7C3:			
Atlas	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
7D2:			
Atlas	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
8D:			
Hickory	91	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
8D2:			
Hickory	91	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
8D3:			
Hickory	91	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
8F:			
Hickory	91	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
8G:			
Hickory	91	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
12A:			
Wynoose	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
13A:			
Bluford	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
13B:			
Bluford	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
14B:			
Ava	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
14C2:			
Ava	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand	
		Rating class	Value
15C2:			
Parke	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
15D2:			
Parke	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
31A:			
Pierron	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
46A:			
Herrick	92	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
48A:			
Ebbert	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
50A:			
Virden	92	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
112A:			
Cowden	94	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
113A:			
Oconee	94	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
113B:			
Oconee	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
113B2:			
Oconee	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
127A:			
Harrison	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
127B:			
Harrison	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand: Rating class	Value
127B2:			
Harrison------------	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
127C2:			
Harrison------------	96	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
128B:			
Douglas-------------	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
128C2:			
Douglas-------------	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
138+:			
Shiloh, overwash----	94	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
138A:			
Shiloh--------------	94	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
256C2:			
Pana----------------	95	Fair	
		Thickest layer	0.00
		Bottom layer	0.02
259C2:			
Assumption----------	97	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
287A:			
Chauncey------------	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
385A:			
Mascoutah-----------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
470B2:			
Keller--------------	100	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
515C2:			
Bunkum--------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand: Rating class	Value
515C3:			
Bunkum--------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
517A:			
Marine--------------	95	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
517B:			
Marine--------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
533:			
Urban land----------	90	Not rated	
536:			
Dumps, mine---------	97	Not rated	
581B:			
Tamalco-------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
581B2:			
Tamalco-------------	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
582B:			
Homen---------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
582C:			
Homen---------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
582C2:			
Homen---------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
583A:			
Pike----------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
583B:			
Pike----------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
583C2:			
Pike----------------	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand	
		Rating class	Value
583D2:			
Pike	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
680B:			
Campton	95	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
790A:			
Herrick	60	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Biddle	30	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
802B:			
Orthents, loamy	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
802E:			
Orthents, loamy	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
830:			
Landfills	90	Not rated	
835G:			
Earthen dam	95	Not rated	
864:			
Pits, quarries	90	Not rated	
871B:			
Lenzburg	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
871D:			
Lenzburg	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
871G:			
Lenzburg	85	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
882A:			
Oconee	40	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand	
		Rating class	Value
882A:			
Darmstadt-----------	29	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Coulterville--------	25	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
882B:			
Oconee--------------	40	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Darmstadt-----------	29	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Coulterville--------	25	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
882B2:			
Oconee--------------	40	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Darmstadt-----------	29	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Coulterville--------	25	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
885A:			
Virden--------------	50	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Fosterburg----------	40	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
894A:			
Herrick-------------	40	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Biddle--------------	35	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Piasa---------------	25	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand: Rating class	Value
897C2:			
Bunkum	50	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Atlas	40	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
912B2:			
Hoyleton	60	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Darmstadt	34	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
991A:			
Cisne	55	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Huey	45	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
993A:			
Cowden	55	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Piasa	45	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
998F:			
Hickory	50	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Negley	40	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
3074A:			
Radford	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
3107A:			
Sawmill	92	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
3225A:			
Holton	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of sand	
		Rating class	Value
3451A:			
Lawson	92	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
7242A:			
Kendall	88	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
7788B:			
Shoals	46	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
Terril	44	Poor	
		Bottom layer	0.00
		Thickest layer	0.00
8109A:			
Racoon	90	Poor	
		Bottom layer	0.00
		Thickest layer	0.00

Table 17b.--Construction Materials

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value
2A:					
Cisne---------------	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.20
		Shrink-swell	0.93	Too acid	0.95
3A:					
Hoyleton------------	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.01
		Wetness	0.24	Wetness	0.24
		Shrink-swell	0.78	Too acid	0.92
3B:					
Hoyleton------------	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.01
		Wetness	0.53	Wetness	0.53
		Shrink-swell	0.91	Too acid	0.88
3B2:					
Hoyleton------------	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.01
		Wetness	0.53	Wetness	0.53
		Shrink-swell	0.87	Too acid	0.88
5C2:					
Blair---------------	85	Poor		Fair	
		Low strength	0.00	Wetness	0.24
		Wetness	0.24		
5C3:					
Blair---------------	85	Poor		Fair	
		Low strength	0.00	Wetness	0.24
		Wetness	0.24		
6B2:					
Fishhook------------	90	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14	Too clayey	0.64
		Shrink-swell	0.40		
6C2:					
Fishhook------------	90	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14	Too clayey	0.64
		Shrink-swell	0.36		
7C2:					
Atlas---------------	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.00
		Shrink-swell	0.16		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
7C3:					
Atlas	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.05
		Shrink-swell	0.12		
7D2:					
Atlas	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.00
		Shrink-swell	0.16	Slope	0.04
8D:					
Hickory	91	Poor		Fair	
		Low strength	0.00	Slope	0.04
		Shrink-swell	0.98	Too clayey	0.57
8D2:					
Hickory	91	Poor		Fair	
		Low strength	0.00	Slope	0.04
		Shrink-swell	0.94	Too clayey	0.57
8D3:					
Hickory	91	Poor		Fair	
		Low strength	0.00	Slope	0.04
		Shrink-swell	0.89	Too clayey	0.58
8F:					
Hickory	91	Poor		Poor	
		Slope	0.00	Slope	0.00
		Low strength	0.00	Too clayey	0.58
		Shrink-swell	0.98		
8G:					
Hickory	91	Poor		Poor	
		Slope	0.00	Slope	0.00
		Low strength	0.00	Too clayey	0.57
		Shrink-swell	0.99		
12A:					
Wynoose	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.00
		Shrink-swell	0.94	Too acid	0.50
13A:					
Bluford	90	Poor		Poor	
		Low strength	0.00	Too clayey	0.00
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.88	Too acid	0.68
13B:					
Bluford	90	Poor		Poor	
		Low strength	0.00	Too clayey	0.00
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.88	Too acid	0.68

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
14B:					
Ava	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.60
		Wetness	0.76	Wetness	0.76
		Shrink-swell	0.98	Too acid	0.76
14C2:					
Ava	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.69
		Wetness	0.76	Wetness	0.76
		Shrink-swell	0.96	Too acid	0.92
15C2:					
Parke	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.57
				Too acid	0.98
15D2:					
Parke	90	Poor		Fair	
		Low strength	0.00	Slope	0.04
				Too clayey	0.57
				Too acid	0.98
31A:					
Pierron	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.00
		Shrink-swell	0.81	Too acid	0.50
46A:					
Herrick	92	Poor		Fair	
		Low strength	0.00	Too clayey	0.05
		Wetness	0.14	Wetness	0.14
		Shrink-swell	0.59		
48A:					
Ebbert	100	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.64
		Shrink-swell	0.97		
50A:					
Virden	92	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.02
		Shrink-swell	0.35		
112A:					
Cowden	94	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.05
		Shrink-swell	0.71		
113A:					
Oconee	94	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Too clayey	0.05
		Shrink-swell	0.51		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
113B:					
Oconee	90	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Too clayey	0.05
		Shrink-swell	0.50		
113B2:					
Oconee	90	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Too clayey	0.05
		Shrink-swell	0.48		
127A:					
Harrison	100	Poor		Fair	
		Low strength	0.00	Too clayey	0.67
		Shrink-swell	0.92	Wetness	0.98
		Wetness	0.98		
127B:					
Harrison	100	Poor		Fair	
		Low strength	0.00	Too clayey	0.67
		Shrink-swell	0.87	Wetness	0.98
		Wetness	0.98		
127B2:					
Harrison	100	Poor		Fair	
		Low strength	0.00	Too clayey	0.67
		Shrink-swell	0.87	Wetness	0.98
		Wetness	0.98		
127C2:					
Harrison	96	Poor		Fair	
		Low strength	0.00	Too clayey	0.67
		Shrink-swell	0.87	Wetness	0.98
		Wetness	0.98		
128B:					
Douglas	100	Fair		Fair	
		Low strength	0.78	Too clayey	0.64
		Shrink-swell	0.99		
128C2:					
Douglas	100	Fair		Fair	
		Low strength	0.78	Too clayey	0.64
		Shrink-swell	0.98		
138+:					
Shiloh, overwash	94	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.02
		Shrink-swell	0.71		
138A:					
Shiloh	94	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.18
		Shrink-swell	0.31		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
256C2:					
Pana	95	Poor		Fair	
		Low strength	0.00	Rock fragments	0.50
		Shrink-swell	0.87	Too clayey	0.57
259C2:					
Assumption	97	Poor		Fair	
		Low strength	0.00	Too clayey	0.64
		Shrink-swell	0.31	Wetness	0.98
		Wetness	0.98		
287A:					
Chauncey	100	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too acid	0.92
		Shrink-swell	0.69		
385A:					
Mascoutah	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.86
		Shrink-swell	0.89		
470B2:					
Keller	100	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14	Too clayey	0.64
		Shrink-swell	0.34		
515C2:					
Bunkum	90	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14	Too clayey	0.57
		Shrink-swell	0.95		
515C3:					
Bunkum	90	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14	Too clayey	0.64
		Shrink-swell	0.99		
517A:					
Marine	95	Poor		Fair	
		Low strength	0.00	Too clayey	0.01
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.61	Too acid	0.88
517B:					
Marine	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.01
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.61	Too acid	0.88
533:					
Urban land	90	Not rated		Not rated	
536:					
Dumps, mine	97	Not rated		Not rated	

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
581B:					
Tamalco	90	Poor		Poor	
		Low strength	0.00	Sodium content	0.00
		Wetness	0.53	Wetness	0.53
		Shrink-swell	0.95	Too clayey	0.64
581B2:					
Tamalco	85	Poor		Poor	
		Low strength	0.00	Sodium content	0.00
		Wetness	0.53	Wetness	0.53
		Shrink-swell	0.96	Too clayey	0.64
582B:					
Homen	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.58
		Shrink-swell	0.91	Wetness	0.98
		Wetness	0.98		
582C:					
Homen	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.58
		Shrink-swell	0.91	Wetness	0.98
		Wetness	0.98		
582C2:					
Homen	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.58
		Shrink-swell	0.87	Wetness	0.98
		Wetness	0.98		
583A:					
Pike	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.55
		Shrink-swell	0.97	Too acid	0.98
583B:					
Pike	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.55
		Shrink-swell	0.98	Too acid	0.98
583C2:					
Pike	90	Poor		Fair	
		Low strength	0.00	Too clayey	0.57
		Shrink-swell	0.99	Too acid	0.95
583D2:					
Pike	90	Poor		Fair	
		Low strength	0.00	Slope	0.04
				Too clayey	0.57
				Too acid	0.95
680B:					
Campton	95	Poor		Fair	
		Low strength	0.00	Too clayey	0.64
		Shrink-swell	0.96	Wetness	0.98
		Wetness	0.98		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value
790A:					
Herrick-------------	60	Poor		Fair	
		Low strength	0.00	Too clayey	0.05
		Wetness	0.14	Wetness	0.14
		Shrink-swell	0.59		
Biddle--------------	30	Poor		Fair	
		Low strength	0.00	Too clayey	0.05
		Wetness	0.14	Wetness	0.14
		Shrink-swell	0.59	Sodium content	0.22
802B:					
Orthents, loamy-----	85	Poor		Good	
		Low strength	0.00		
		Shrink-swell	0.87		
802E:					
Orthents, loamy-----	85	Poor		Poor	
		Low strength	0.00	Slope	0.00
		Slope	0.32		
		Shrink-swell	0.87		
830:					
Landfills-----------	90	Not rated		Not rated	
835G:					
Earthen dam---------	95	Not rated		Not rated	
864:					
Pits, quarries------	90	Not rated		Not rated	
871B:					
Lenzburg------------	85	Poor		Fair	
		Low strength	0.00	Rock fragments	0.72
		Shrink-swell	0.87	Hard to reclaim (rock fragments)	0.88
871D:					
Lenzburg------------	85	Poor		Fair	
		Low strength	0.00	Slope	0.04
		Shrink-swell	0.87	Rock fragments	0.72
				Hard to reclaim (rock fragments)	0.88
871G:					
Lenzburg------------	85	Poor		Poor	
		Slope	0.00	Slope	0.00
		Low strength	0.00	Rock fragments	0.72
		Shrink-swell	0.87	Hard to reclaim (rock fragments)	0.88
882A:					
Oconee--------------	40	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Too clayey	0.05
		Shrink-swell	0.50		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
882A:					
Darmstadt-----------	29	Poor		Poor	
		Low strength	0.00	Sodium content	0.00
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.99	Too clayey	0.64
Coulterville--------	25	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Sodium content	0.22
		Shrink-swell	0.90	Too clayey	0.64
882B:					
Oconee--------------	40	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Too clayey	0.05
		Shrink-swell	0.50		
Darmstadt-----------	29	Poor		Poor	
		Low strength	0.00	Sodium content	0.00
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.99	Too clayey	0.64
Coulterville--------	25	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Sodium content	0.22
		Shrink-swell	0.87	Too clayey	0.64
882B2:					
Oconee--------------	40	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Too clayey	0.05
		Shrink-swell	0.50		
Darmstadt-----------	29	Poor		Poor	
		Low strength	0.00	Sodium content	0.00
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.99	Too clayey	0.64
Coulterville--------	25	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Sodium content	0.22
		Shrink-swell	0.87	Too clayey	0.64
885A:					
Virden--------------	50	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.25
		Shrink-swell	0.10		
Fosterburg----------	40	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.07
		Shrink-swell	0.43	Sodium content	0.22

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
894A:					
Herrick-------------	40	Poor		Fair	
		Low strength	0.00	Too clayey	0.05
		Wetness	0.14	Wetness	0.14
		Shrink-swell	0.59		
Biddle--------------	35	Poor		Fair	
		Low strength	0.00	Too clayey	0.05
		Wetness	0.14	Wetness	0.14
		Shrink-swell	0.59	Sodium content	0.22
Piasa---------------	25	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Sodium content	0.00
		Shrink-swell	0.86	Too clayey	0.01
897C2:					
Bunkum--------------	50	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14	Too clayey	0.70
		Shrink-swell	0.99		
Atlas---------------	40	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.01
		Shrink-swell	0.12		
912B2:					
Hoyleton------------	60	Poor		Fair	
		Low strength	0.00	Too clayey	0.01
		Wetness	0.24	Wetness	0.24
		Shrink-swell	0.98	Too acid	0.88
Darmstadt-----------	34	Poor		Poor	
		Low strength	0.00	Sodium content	0.00
		Wetness	0.04	Wetness	0.04
		Shrink-swell	0.99	Too clayey	0.64
991A:					
Cisne---------------	55	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.20
		Shrink-swell	0.93	Too acid	0.95
Huey----------------	45	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Sodium content	0.00
		Shrink-swell	0.91	Too clayey	0.52
993A:					
Cowden--------------	55	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.05
		Shrink-swell	0.71		
Piasa---------------	45	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Sodium content	0.00
		Shrink-swell	0.86	Too clayey	0.01

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
998F:					
Hickory-------------	50	Poor		Poor	
		Slope	0.00	Slope	0.00
		Low strength	0.78	Too clayey	0.58
Negley--------------	40	Poor		Poor	
		Slope	0.00	Slope	0.00
		Shrink-swell	0.87	Rock fragments	0.50
				Too clayey	0.61
3074A:					
Radford-------------	90	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14		
3107A:					
Sawmill-------------	92	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too clayey	0.98
		Shrink-swell	0.87		
3225A:					
Holton--------------	90	Fair		Fair	
		Wetness	0.04	Wetness	0.04
3451A:					
Lawson--------------	92	Poor		Fair	
		Low strength	0.00	Wetness	0.14
		Wetness	0.14		
7242A:					
Kendall-------------	88	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04	Too clayey	0.57
		Shrink-swell	0.97		
7788B:					
Shoals--------------	46	Poor		Fair	
		Low strength	0.00	Wetness	0.04
		Wetness	0.04		
Terril--------------	44	Good		Good	
8109A:					
Racoon--------------	90	Poor		Poor	
		Wetness	0.00	Wetness	0.00
		Low strength	0.00	Too acid	0.95
		Shrink-swell	0.99		

Table 18a.--Water Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne---------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
				Ponding	1.00	Cutbanks cave	0.10
				Piping	0.28		
3A:							
Hoyleton------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
				Piping	0.16	Cutbanks cave	0.10
3B:							
Hoyleton------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
				Piping	0.01	Cutbanks cave	0.10
						Depth to saturated zone	0.01
3B2:							
Hoyleton------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
						Depth to saturated zone	0.01
5C2:							
Blair---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.98	Depth to saturated zone	1.00	Slow refill	0.96
		Seepage	0.04	Piping	0.06	Cutbanks cave	0.10
5C3:							
Blair---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.98	Depth to saturated zone	1.00	Slow refill	0.96
		Seepage	0.04	Piping	0.01	Cutbanks cave	0.10
6B2:							
Fishhook------------	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.02				
6C2:							
Fishhook------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.98	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.72				
7C2:							
Atlas---------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.98	Depth to saturated zone	1.00	Depth to water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
7C3:							
Atlas---------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.98	Depth to saturated zone	1.00	Depth to water	1.00
7D2:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
8D:							
Hickory-------------	91	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.19	Depth to water	1.00
		Seepage	0.72				
8D2:							
Hickory-------------	91	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.02	Depth to water	1.00
		Seepage	0.72				
8D3:							
Hickory-------------	91	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.72				
8F:							
Hickory-------------	91	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.14	Depth to water	1.00
		Seepage	0.72				
8G:							
Hickory-------------	91	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.28	Depth to water	1.00
		Seepage	0.72				
12A:							
Wynoose-------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.09		
13A:							
Bluford-------------	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.01		
13B:							
Bluford-------------	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.01		
14B:							
Ava-----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Depth to saturated zone	0.95	Depth to water	1.00
				Piping	0.12		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14C2:							
Ava-----------------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.95	Depth to water	1.00
		Seepage	0.04	Piping	0.01		
15C2:							
Parke---------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.98	Piping	0.43	Depth to water	1.00
		Seepage	0.72				
15D2:							
Parke---------------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.43	Depth to water	1.00
		Seepage	0.72				
31A:							
Pierron-------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Cutbanks cave	0.50
				Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.01		
46A:							
Herrick-------------	92	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
48A:							
Ebbert--------------	100	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.96
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.04		
50A:							
Virden--------------	92	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
112A:							
Cowden--------------	94	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.14		
113A:							
Oconee--------------	94	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
				Piping	0.01	Cutbanks cave	0.10
113B:							
Oconee--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
		Slope	0.02	Piping	0.01	Cutbanks cave	0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113B2:							
Oconee--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
		Slope	0.02			Cutbanks cave	0.10
127A:							
Harrison------------	100	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
				Piping	0.01		
127B:							
Harrison------------	100	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
		Slope	0.02				
				Piping	0.01		
127B2:							
Harrison------------	100	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
		Slope	0.02				
127C2:							
Harrison------------	96	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.98	Depth to saturated zone	0.68	Depth to water	1.00
		Seepage	0.72				
128B:							
Douglas-------------	100	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.05	Depth to water	1.00
		Slope	0.02				
128C2:							
Douglas-------------	100	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.03	Depth to water	1.00
		Slope	0.98				
138+:							
Shiloh, overwash----	94	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.01		
138A:							
Shiloh--------------	94	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.96
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	0.22		
256C2:							
Pana----------------	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.01	Depth to water	1.00
		Slope	0.98				
259C2:							
Assumption----------	97	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.98	Depth to saturated zone	0.68	Depth to water	1.00
		Seepage	0.72				

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
287A:							
Chauncey------------	100	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.08		
385A:							
Mascoutah-----------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
470B2:							
Keller--------------	100	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.02				
515C2:							
Bunkum--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.98	Depth to saturated zone	1.00	Slow refill	0.96
		Seepage	0.04			Cutbanks cave	0.10
				Piping	0.02		
515C3:							
Bunkum--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.98	Depth to saturated zone	1.00	Slow refill	0.96
		Seepage	0.04			Cutbanks cave	0.10
517A:							
Marine--------------	95	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.06		
517B:							
Marine--------------	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.02				
				Piping	0.06		
533:							
Urban land----------	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine---------	97	Not rated		Not rated		Not rated	
581B:							
Tamalco-------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.02	Piping	1.00	Depth to water	1.00
				Depth to saturated zone	1.00		
581B2:							
Tamalco-------------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.02	Piping	1.00	Depth to water	1.00
				Depth to saturated zone	1.00		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
582B:							
Homen	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
		Slope	0.02	Piping	0.03		
582C:							
Homen	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.98	Depth to saturated zone	0.68	Depth to water	1.00
		Seepage	0.72	Piping	0.03		
582C2:							
Homen	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.98	Depth to saturated zone	0.68	Depth to water	1.00
		Seepage	0.72	Piping	0.01		
583A:							
Pike	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.08	Depth to water	1.00
583B:							
Pike	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.09	Depth to water	1.00
		Slope	0.02				
583C2:							
Pike	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.98	Piping	0.09	Depth to water	1.00
		Seepage	0.72				
583D2:							
Pike	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.13	Depth to water	1.00
		Seepage	0.72				
680B:							
Campton	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.68	Slow refill	0.28
		Slope	0.02	Piping	0.09	Depth to saturated zone	0.14
						Cutbanks cave	0.10
790A:							
Herrick	60	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
Biddle	30	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.78		
802B:							
Orthents, loamy	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Piping	0.08	Depth to water	1.00
		Seepage	0.04				

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
802E:							
Orthents, loamy-----	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.08	Depth to water	1.00
		Seepage	0.04				
830:							
Landfills-----------	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam---------	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries------	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Piping	0.11	Depth to water	1.00
		Seepage	0.04				
871D:							
Lenzburg------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.02	Depth to water	1.00
		Seepage	0.04				
871G:							
Lenzburg------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.02	Depth to water	1.00
		Seepage	0.04				
882A:							
Oconee--------------	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
				Piping	0.01		
Darmstadt-----------	29	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
Coulterville--------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.80		
882B:							
Oconee--------------	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
		Slope	0.02			Cutbanks cave	0.10
				Piping	0.01		
Darmstadt-----------	29	Somewhat limited		Very limited		Very limited	
		Slope	0.02	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
Coulterville--------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.02				
				Piping	0.78		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
882B2:							
Oconee--------------	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
		Slope	0.02			Cutbanks cave	0.10
Darmstadt-----------	29	Somewhat limited		Very limited		Very limited	
		Slope	0.02	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
Coulterville--------	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.02				
				Piping	0.78		
885A:							
Virden--------------	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
Fosterburg----------	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.78		
894A:							
Herrick-------------	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
Biddle--------------	35	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.78		
Piasa---------------	25	Not limited		Very limited		Very limited	
				Ponding	1.00	Depth to water	1.00
				Depth to saturated zone	1.00		
				Piping	1.00		
897C2:							
Bunkum--------------	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.98	Depth to saturated zone	1.00	Slow refill	0.96
		Seepage	0.04			Cutbanks cave	0.10
				Piping	0.09		
Atlas---------------	40	Somewhat limited		Very limited		Very limited	
		Slope	0.98	Depth to saturated zone	1.00	Depth to water	1.00
912B2:							
Hoyleton------------	60	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
		Slope	0.02			Cutbanks cave	0.10
				Piping	0.33		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
912B2:							
Darmstadt-----------	34	Somewhat limited		Very limited		Very limited	
		Slope	0.02	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
991A:							
Cisne---------------	55	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.28		
Huey----------------	45	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.02	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	1.00		
				Ponding	1.00		
993A:							
Cowden--------------	55	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.14		
Piasa---------------	45	Not limited		Very limited		Very limited	
				Ponding	1.00	Depth to water	1.00
				Depth to saturated zone	1.00		
				Piping	1.00		
998F:							
Hickory-------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.06	Depth to water	1.00
		Seepage	0.72				
Negley--------------	40	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	1.00				
3074A:							
Radford-------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.50		
3107A:							
Sawmill-------------	92	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Ponding	1.00		
3225A:							
Holton--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	1.00		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3451A:							
Lawson--------------	92	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.92		
7242A:							
Kendall-------------	88	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.04		
7788B:							
Shoals--------------	46	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.60		
Terril--------------	44	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.92	Depth to saturated zone	0.96
						Slow refill	0.28
						Cutbanks cave	0.10
8109A:							
Racoon--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.49		

Table 18b.--Water Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2A:							
Cisne	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Frost action	0.10
				Restricted permeability	0.93		
3A:							
Hoyleton	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Restricted permeability	0.43
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.40	Deep to water	0.05
3B:							
Hoyleton	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Water erosion	1.00	Restricted permeability	0.43
				Depth to saturated zone	1.00	Deep to water	0.11
				Restricted permeability	0.40	Frost action	0.10
3B2:							
Hoyleton	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Water erosion	1.00	Restricted permeability	0.43
				Depth to saturated zone	1.00	Deep to water	0.11
				Restricted permeability	0.40	Frost action	0.10
5C2:							
Blair	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.05
5C3:							
Blair	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.05

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6B2:							
Fishhook------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.03
						Slope	0.01
6C2:							
Fishhook------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Slope	0.74
				Restricted permeability	0.91	Frost action	0.10
						Deep to water	0.03
7C2:							
Atlas---------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Slope	0.74
						Frost action	0.10
7C3:							
Atlas---------------	90	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Slope	0.74
						Frost action	0.10
7D2:							
Atlas---------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Frost action	0.10
8D:							
Hickory-------------	91	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
8D2:							
Hickory-------------	91	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
8D3:							
Hickory-------------	91	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
8F:							
Hickory-------------	91	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
8G:							
Hickory-------------	91	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
12A:							
Wynoose	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Frost action	0.10
				Restricted permeability	0.93		
13A:							
Bluford	90	Very limited		Very limited		Somewhat limited	
		Depth to fragipan	1.00	Water erosion	1.00	Restricted permeability	0.43
				Depth to saturated zone	1.00	Depth to fragipan	0.17
				Restricted permeability	0.40	Frost action	0.10
						Deep to water	0.01
13B:							
Bluford	90	Very limited		Very limited		Somewhat limited	
		Depth to fragipan	1.00	Water erosion	1.00	Restricted permeability	0.21
		Slope	0.16	Depth to saturated zone	1.00	Depth to fragipan	0.17
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.01
14B:							
Ava	90	Very limited		Very limited		Somewhat limited	
		Depth to fragipan	1.00	Water erosion	1.00	Depth to fragipan	0.24
		Slope	0.16	Rooting depth	1.00	Restricted permeability	0.21
				Depth to saturated zone	1.00	Deep to water	0.17
				Restricted permeability	0.22	Frost action	0.10
14C2:							
Ava	90	Very limited		Very limited		Somewhat limited	
		Depth to fragipan	1.00	Water erosion	1.00	Slope	0.84
		Slope	1.00	Rooting depth	1.00	Depth to fragipan	0.45
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Deep to water	0.17
						Frost action	0.10
15C2:							
Parke	90	Somewhat limited		Very limited		Drainage not needed	
		Slope	0.99	Water erosion	1.00		
15D2:							
Parke	90	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Water erosion	1.00		
				Slope	1.00		
31A:							
Pierron	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Frost action	0.10
				Restricted permeability	0.99		

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
46A:							
Herrick	92	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.03
48A:							
Ebbert	100	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Ponding	1.00	Ponding	0.47
				Restricted permeability	0.91	Frost action	0.10
50A:							
Virden	92	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
112A:							
Cowden	94	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Frost action	0.10
				Restricted permeability	0.91		
113A:							
Oconee	94	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
113B:							
Oconee	90	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
						Slope	0.01
113B2:							
Oconee	90	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
						Slope	0.01

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127A:							
Harrison------------	100	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Deep to water	0.37
						Frost action	0.10
127B:							
Harrison------------	96	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.25	Depth to saturated zone	1.00	Deep to water	0.37
						Frost action	0.10
						Slope	0.01
127B2:							
Harrison------------	100	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.25	Water erosion	1.00	Deep to water	0.37
				Depth to saturated zone	1.00	Frost action	0.10
						Slope	0.01
127C2:							
Harrison------------	96	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
				Depth to saturated zone	1.00	Deep to water	0.37
						Frost action	0.10
128B:							
Douglas-------------	95	Somewhat limited		Not limited		Drainage not needed	
		Slope	0.25				
128C2:							
Douglas-------------	95	Somewhat limited		Very limited		Drainage not needed	
		Slope	0.99	Water erosion	1.00		
138+:							
Shiloh, overwash----	94	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
138A:							
Shiloh--------------	94	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
256C2:							
Pana----------------	95	Somewhat limited		Not limited		Drainage not needed	
		Slope	0.99				
259C2:							
Assumption----------	97	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Slope	0.74
				Restricted permeability	0.91	Deep to water	0.37
						Frost action	0.10

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
287A:							
Chauncey	100	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.91	Frost action	0.10
385A:							
Mascoutah	90	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Ponding	0.33
						Frost action	0.10
				Ponding	1.00		
470B2:							
Keller	90	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.03
						Slope	0.01
515C2:							
Bunkum	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.03
515C3:							
Bunkum	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.03
517A:							
Marine	95	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
517B:							
Marine	90	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
						Slope	0.01
533:							
Urban land	90	Not rated		Not rated		Not rated	
536:							
Dumps, mine	97	Not rated		Not rated		Not rated	

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
581B:							
Tamalco	90	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Deep to water	0.11
						Slope	0.01
581B2:							
Tamalco	85	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Deep to water	0.11
						Slope	0.01
582B:							
Homen	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to fragipan	0.97	Water erosion	1.00	Deep to water	0.37
		Slope	0.25	Depth to saturated zone	1.00	Frost action	0.10
						Slope	0.01
582C:							
Homen	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
		Depth to fragipan	0.97	Depth to saturated zone	1.00	Deep to water	0.37
						Frost action	0.10
582C2:							
Homen	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
		Depth to fragipan	0.98	Depth to saturated zone	1.00	Deep to water	0.37
						Frost action	0.10
583A:							
Pike	90	Not limited		Very limited		Drainage not needed	
				Water erosion	1.00		
583B:							
Pike	90	Somewhat limited		Very limited		Drainage not needed	
		Slope	0.25	Water erosion	1.00		
583C2:							
Pike	90	Somewhat limited		Very limited		Drainage not needed	
		Slope	0.99	Water erosion	1.00		
583D2:							
Pike	90	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Water erosion	1.00		
				Slope	1.00		
680B:							
Campton	95	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.25	Water erosion	1.00	Deep to water	0.37
				Depth to saturated zone	1.00	Frost action	0.10
						Slope	0.01

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
790A:							
Herrick	60	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.03
Biddle	30	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.91	Excess sodium	0.78
						Frost action	0.10
						Deep to water	0.03
802B:							
Orthents, loamy	85	Somewhat limited		Very limited		Drainage not needed	
		Slope	0.36	Water erosion	1.00		
				Restricted permeability	0.22		
802E:							
Orthents, loamy	85	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Water erosion	1.00		
				Slope	1.00		
				Restricted permeability	0.22		
830:							
Landfills	90	Not rated		Not rated		Not rated	
835G:							
Earthen dam	95	Not rated		Not rated		Not rated	
864:							
Pits, quarries	90	Not rated		Not rated		Not rated	
871B:							
Lenzburg	85	Somewhat limited		Somewhat limited		Drainage not needed	
		Slope	0.36	Restricted permeability	0.22		
		Content of large stones	0.10	Content of large stones	0.10		
871D:							
Lenzburg	85	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
		Content of large stones	0.10	Restricted permeability	0.22		
				Content of large stones	0.10		
871G:							
Lenzburg	85	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
		Content of large stones	0.10	Restricted permeability	0.22		
				Content of large stones	0.10		

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
882A:							
Oconee--------------	40	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
Darmstadt-----------	29	Not limited		Very limited		Very limited	
				Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Frost action	0.10
						Deep to water	0.01
Coulterville--------	25	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Excess sodium	0.78
				Restricted permeability	0.91	Frost action	0.10
						Deep to water	0.01
882B:							
Oconee--------------	40	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
						Slope	0.01
Darmstadt-----------	29	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Frost action	0.10
						Deep to water	0.01
						Slope	0.01
Coulterville--------	25	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Excess sodium	0.78
				Restricted permeability	0.91	Frost action	0.10
						Deep to water	0.01
						Slope	0.01
882B2:							
Oconee--------------	40	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.91	Deep to water	0.01
						Slope	0.01

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
882B2:							
Darmstadt-----------	29	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Frost action	0.10
						Deep to water	0.01
						Slope	0.01
Coulterville--------	25	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Excess sodium	0.78
				Restricted permeability	0.91	Frost action	0.10
						Deep to water	0.01
						Slope	0.01
885A:							
Virden--------------	50	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
Fosterburg----------	40	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Ponding	1.00	Excess sodium	0.78
				Restricted permeability	0.91	Ponding	0.33
						Frost action	0.10
894A:							
Herrick-------------	40	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.03
Biddle--------------	35	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.91	Excess sodium	0.78
						Frost action	0.10
						Deep to water	0.03
Piasa---------------	25	Not limited		Very limited		Very limited	
				Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Ponding	1.00	Ponding	0.33
				Restricted permeability	0.99	Frost action	0.10

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
897C2:							
Bunkum	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.99	Water erosion	1.00	Slope	0.74
				Depth to saturated zone	1.00	Restricted permeability	0.21
				Restricted permeability	0.22	Frost action	0.10
						Deep to water	0.03
Atlas	40	Somewhat limited		Very limited		Very limited	
		Slope	0.99	Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Slope	0.74
						Frost action	0.10
912B2:							
Hoyleton	60	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.25	Water erosion	1.00	Restricted permeability	0.43
				Depth to saturated zone	1.00	Frost action	0.10
				Restricted permeability	0.40	Deep to water	0.05
						Slope	0.01
Darmstadt	34	Somewhat limited		Very limited		Very limited	
		Slope	0.25	Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Restricted permeability	0.99	Frost action	0.10
						Deep to water	0.01
						Slope	0.01
991A:							
Cisne	50	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Frost action	0.10
				Restricted permeability	0.93		
Huey	40	Not limited		Very limited		Very limited	
				Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Ponding	1.00	Ponding	0.33
				Restricted permeability	0.99	Frost action	0.10
993A:							
Cowden	55	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Frost action	0.10
				Restricted permeability	0.91		

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
993A:							
Piasa---------------	45	Not limited		Very limited		Very limited	
				Water erosion	1.00	Excess sodium	1.00
				Depth to saturated zone	1.00	Restricted permeability	1.00
				Ponding	1.00	Ponding	0.33
				Restricted permeability	0.99	Frost action	0.10
998F:							
Hickory-------------	50	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
Negley--------------	40	Very limited		Very limited		Drainage not needed	
		Slope	1.00	Slope	1.00		
3074A:							
Radford-------------	90	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Flooding	0.35
						Frost action	0.10
						Deep to water	0.03
3107A:							
Sawmill-------------	92	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Flooding	0.35
						Ponding	0.33
				Ponding	1.00	Frost action	0.10
3225A:							
Holton--------------	90	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Flooding	0.35
				Depth to saturated zone	1.00	Frost action	0.10
						Deep to water	0.01
3451A:							
Lawson--------------	92	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Flooding	0.35
						Frost action	0.10
						Deep to water	0.03
7242A:							
Kendall-------------	88	Not limited		Very limited		Somewhat limited	
				Water erosion	1.00	Frost action	0.10
				Depth to saturated zone	1.00	Flooding	0.05
						Deep to water	0.01
7788B:							
Shoals--------------	46	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Water erosion	1.00	Frost action	0.10
				Depth to saturated zone	1.00	Flooding	0.05
						Deep to water	0.01
Terril--------------	44	Somewhat limited		Not limited		Drainage not needed	
		Slope	0.16				

Table 18b.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8109A:							
Racoon	90	Not limited		Very limited		Very limited	
				Water erosion	1.00	Restricted permeability	1.00
				Depth to saturated zone	1.00	Ponding	0.33
				Ponding	1.00	Flooding	0.10
				Restricted permeability	0.91	Frost action	0.10

Table 18c.--Water Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value column range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Sprinkler irrigation: Value
2A:			
Cisne	90	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.49
3A:			
Hoyleton	90	Very limited	
		Depth to saturated zone	1.00
3B:			
Hoyleton	90	Very limited	
		Slope	1.00
		Depth to saturated zone	0.99
		Too acid	0.04
		Water erosion	0.01
3B2:			
Hoyleton	90	Very limited	
		Slope	1.00
		Depth to saturated zone	0.99
		Water erosion	0.01
5C2:			
Blair	85	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Water erosion	0.97
5C3:			
Blair	85	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Water erosion	0.97
6B2:			
Fishhook	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Water erosion	0.13

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
6C2:			
Fishhook	90	Very limited	
		Depth to saturated zone	1.00
		Water erosion	1.00
		Slope	1.00
		Drains slowly	0.29
7C2:			
Atlas	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.98
		Water erosion	0.82
7C3:			
Atlas	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.98
		Water erosion	0.60
7D2:			
Atlas	90	Very limited	
		Depth to saturated zone	1.00
		Water erosion	1.00
		Slope	1.00
		Drains slowly	0.98
8D:			
Hickory	91	Very limited	
		Water erosion	1.00
		Slope	1.00
8D2:			
Hickory	91	Very limited	
		Water erosion	1.00
		Slope	1.00
8D3:			
Hickory	91	Very limited	
		Water erosion	1.00
		Slope	1.00
8F:			
Hickory	91	Very limited	
		Water erosion	1.00
		Slope	1.00
8G:			
Hickory	91	Very limited	
		Water erosion	1.00
		Slope	1.00

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
12A:			
Wynoose	90	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.49
		Too acid	0.22
13A:			
Bluford	90	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
		Too acid	0.08
13B:			
Bluford	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Too acid	0.08
		Water erosion	0.04
14B:			
Ava	90	Very limited	
		Slope	1.00
		Drains slowly	0.98
		Depth to saturated zone	0.82
		Water erosion	0.04
		Too acid	0.04
14C2:			
Ava	90	Very limited	
		Slope	1.00
		Water erosion	0.99
		Drains slowly	0.98
		Depth to saturated zone	0.82
15C2:			
Parke	90	Very limited	
		Slope	1.00
		Water erosion	0.97
15D2:			
Parke	90	Very limited	
		Water erosion	1.00
		Slope	1.00
31A:			
Pierron	90	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.98
		Too acid	0.22

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
46A:			
Herrick	92	Very limited	
		Depth to saturated zone	1.00
48A:			
Ebbert	100	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.29
50A:			
Virden	92	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
112A:			
Cowden	94	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.29
113A:			
Oconee	94	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
113B:			
Oconee	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Water erosion	0.04
113B2:			
Oconee	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Water erosion	0.04
127A:			
Harrison	100	Somewhat limited	
		Depth to saturated zone	0.08
127B:			
Harrison	100	Very limited	
		Slope	1.00
		Depth to saturated zone	0.08

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
127B2:			
Harrison	100	Very limited	
		Slope	1.00
		Depth to saturated zone	0.08
		Water erosion	0.04
127C2:			
Harrison	96	Very limited	
		Slope	1.00
		Water erosion	0.97
		Depth to saturated zone	0.08
128B:			
Douglas	100	Very limited	
		Slope	1.00
128C2:			
Douglas	100	Very limited	
		Slope	1.00
		Water erosion	0.97
138+:			
Shiloh, overwash	94	Very limited	
		Depth to saturated zone	1.00
138A:			
Shiloh	94	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
256C2:			
Pana	95	Very limited	
		Slope	1.00
		Water erosion	0.60
259C2:			
Assumption	97	Very limited	
		Slope	1.00
		Water erosion	0.97
		Drains slowly	0.29
		Depth to saturated zone	0.08
287A:			
Chauncey	100	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
385A:			
Mascoutah	90	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
470B2:			
Keller	100	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Water erosion	0.04
515C2:			
Bunkum	90	Very limited	
		Depth to saturated zone	1.00
		Water erosion	1.00
		Slope	1.00
515C3:			
Bunkum	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Water erosion	0.97
517A:			
Marine	95	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
517B:			
Marine	90	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Water erosion	0.13
533:			
Urban land	90	Not rated	
536:			
Dumps, mine	97	Not rated	
581B:			
Tamalco	90	Very limited	
		Excess sodium	1.00
		Slope	1.00
		Depth to saturated zone	0.99
		Drains slowly	0.98
		Water erosion	0.13
581B2:			
Tamalco	85	Very limited	
		Excess sodium	1.00
		Slope	1.00
		Depth to saturated zone	0.99
		Drains slowly	0.98
		Water erosion	0.13

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
582B:			
Homen	90	Very limited	
		Slope	1.00
		Water erosion	0.13
		Depth to saturated zone	0.08
582C:			
Homen	90	Very limited	
		Water erosion	1.00
		Slope	1.00
		Depth to saturated zone	0.08
582C2:			
Homen	90	Very limited	
		Water erosion	1.00
		Slope	1.00
		Depth to saturated zone	0.08
583A:			
Pike	90	Not limited	
583B:			
Pike	90	Very limited	
		Slope	1.00
		Water erosion	0.13
583C2:			
Pike	90	Very limited	
		Water erosion	1.00
		Slope	1.00
583D2:			
Pike	90	Very limited	
		Water erosion	1.00
		Slope	1.00
680B:			
Campton	95	Very limited	
		Slope	1.00
		Water erosion	0.13
		Depth to saturated zone	0.08
790A:			
Herrick	60	Very limited	
		Depth to saturated zone	1.00
Biddle	30	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
		Excess sodium	0.16

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
802B:			
Orthents, loamy	85	Very limited	
		Slope	1.00
		Water erosion	0.26
		Low water-holding capacity	0.01
802E:			
Orthents, loamy	85	Very limited	
		Water erosion	1.00
		Slope	1.00
		Low water-holding capacity	0.01
830:			
Landfills	90	Not rated	
835G:			
Earthen dam	95	Not rated	
864:			
Pits, quarries	90	Not rated	
871B:			
Lenzburg	85	Very limited	
		Slope	1.00
		Water erosion	0.04
871D:			
Lenzburg	85	Very limited	
		Water erosion	1.00
		Slope	1.00
871G:			
Lenzburg	85	Very limited	
		Water erosion	1.00
		Slope	1.00
882A:			
Oconee	40	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
Darmstadt	29	Very limited	
		Depth to saturated zone	1.00
		Excess sodium	1.00
		Drains slowly	0.98
Coulterville	25	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
		Excess sodium	0.16

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Sprinkler irrigation: Value
882B:			
Oconee	40	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Water erosion	0.04
Darmstadt	29	Very limited	
		Depth to saturated zone	1.00
		Excess sodium	1.00
		Slope	1.00
		Drains slowly	0.98
		Water erosion	0.13
Coulterville	25	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Excess sodium	0.16
		Water erosion	0.13
882B2:			
Oconee	40	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Water erosion	0.04
Darmstadt	29	Very limited	
		Depth to saturated zone	1.00
		Excess sodium	1.00
		Slope	1.00
		Drains slowly	0.98
		Water erosion	0.13
Coulterville	25	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.29
		Excess sodium	0.16
		Water erosion	0.13
885A:			
Virden	50	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
Fosterburg	40	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.29
		Excess sodium	0.16

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
894A:			
Herrick	40	Very limited	
		Depth to saturated zone	1.00
Biddle	35	Very limited	
		Depth to saturated zone	1.00
		Drains slowly	0.29
		Excess sodium	0.16
Piasa	25	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Excess sodium	1.00
		Drains slowly	0.98
897C2:			
Bunkum	50	Very limited	
		Depth to saturated zone	1.00
		Water erosion	1.00
		Slope	1.00
Atlas	40	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Drains slowly	0.98
		Water erosion	0.82
912B2:			
Hoyleton	60	Very limited	
		Depth to saturated zone	1.00
		Slope	1.00
		Water erosion	0.04
Darmstadt	34	Very limited	
		Depth to saturated zone	1.00
		Excess sodium	1.00
		Slope	1.00
		Drains slowly	0.98
		Water erosion	0.13
991A:			
Cisne	55	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.49
Huey	45	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Excess sodium	1.00
		Drains slowly	0.97

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation: Rating class and limiting features	Value
993A:			
Cowden	55	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Drains slowly	0.29
Piasa	45	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Excess sodium	1.00
		Drains slowly	0.98
998F:			
Hickory	50	Very limited	
		Water erosion	1.00
		Slope	1.00
Negley	40	Very limited	
		Water erosion	1.00
		Slope	1.00
3074A:			
Radford	90	Very limited	
		Depth to saturated zone	1.00
		Flooding	0.70
3107A:			
Sawmill	92	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Flooding	0.70
3225A:			
Holton	90	Very limited	
		Depth to saturated zone	1.00
		Flooding	0.70
3451A:			
Lawson	92	Very limited	
		Depth to saturated zone	1.00
		Flooding	0.70
7242A:			
Kendall	88	Very limited	
		Depth to saturated zone	1.00
7788B:			
Shoals	46	Very limited	
		Depth to saturated zone	1.00
		Slope	0.50

Table 18c.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation	
		Rating class and limiting features	Value
7788B:			
Terril--------------	44	Very limited	
		Slope	1.00
8109A:			
Racoon--------------	90	Very limited	
		Ponding	1.00
		Depth to saturated zone	1.00
		Flooding	0.40
		Drains slowly	0.29

Table 19.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2A:												
Cisne-----------	0-8	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	23-38	6-13
	8-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	21-32	6-13
	17-37	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	37-60	Silty clay loam, silt loam, clay loam, loam	CL	A-6, A-7-6	0	0	95-100	84-100	75-99	60-90	31-46	13-25
	60-80	Silt loam, loam, clay loam, silty clay loam	CL	A-7-6, A-6	0	0	95-100	82-97	75-97	55-90	29-44	13-25
3A:												
Hoyleton--------	0-8	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	25-44	7-18
	8-11	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-38	12-19
	11-39	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	39-80	Silt loam, silty clay loam, clay loam, loam	CL	A-6, A-7-6	0	0	100	95-100	80-100	60-97	28-46	12-25
3B:												
Hoyleton--------	0-8	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	25-44	7-18
	8-15	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-38	12-19
	15-34	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	34-60	Silt loam, silty clay loam, clay loam, loam	CL	A-6, A-7-6	0	0	100	95-100	80-100	60-97	28-46	12-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
3B2:												
Hoyleton--------	0-7	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	24-42	7-18
	7-30	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	30-60	Silt loam, silty clay loam, clay loam, loam	CL	A-6, A-7-6	0	0	100	95-100	80-100	60-97	28-46	12-25
5C2:												
Blair-----------	0-5	Silt loam	CL	A-6	0	0-2	95-100	90-100	85-100	80-100	31-41	13-19
	5-20	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0-5	95-100	90-100	85-100	70-100	35-47	17-25
	20-71	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0-5	95-100	90-100	85-100	70-90	27-44	12-25
	71-80	Silty clay loam, clay loam, silt loam	CL	A-6, A-4, A-7-6	0	0-5	95-100	90-100	85-100	60-90	26-46	10-25
5C3:												
Blair-----------	0-5	Silty clay loam	CL	A-7-6, A-6	0	0-2	95-100	90-100	85-100	80-100	36-47	17-25
	5-20	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0-5	95-100	90-100	85-100	70-100	35-47	17-25
	20-71	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0-5	95-100	90-100	85-100	70-90	27-44	12-25
	71-80	Silty clay loam, clay loam, silt loam	CL	A-6	0	0-5	95-100	90-100	85-100	60-90	26-46	10-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
6B2:												
Fishhook--------	0-7	Silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	31-41	13-19
	7-29	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-47	19-25
	29-60	Clay loam, clay, silty clay loam	CH, CL	A-7-6	0-1	0-5	95-100	90-100	85-99	62-90	45-57	25-33
	60-80	Clay loam, clay, silty clay loam, loam	CH, CL	A-6, A-7-6	0-1	0-5	95-100	90-100	80-99	60-90	32-57	14-33
6C2:												
Fishhook--------	0-6	Silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-41	13-19
	6-27	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-96	37-47	19-25
	27-58	Clay loam, clay, silty clay loam	CH, CL	A-7-6	0-1	0-5	95-100	90-100	80-100	60-90	45-56	25-33
	58-80	Clay loam, clay, silty clay loam, loam	CH, CL	A-6, A-7-6	0-1	0-5	95-100	90-100	80-99	60-90	32-57	14-33
7C2:												
Atlas-----------	0-7	Silt loam	CL	A-6	0	0	100	100	90-100	71-100	31-41	13-19
	7-13	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-47	19-25
	13-26	Silty clay loam, clay, clay loam, silty clay	CH, CL	A-7-6	0	0	100	95-100	86-100	63-95	45-57	25-33
	26-61	Clay loam, clay, silty clay	CH, CL	A-7-6	0	0	100	95-100	86-100	63-95	41-57	21-33
	61-80	Clay loam, silty clay, loam	CH, CL	A-6, A-7-6	0	0	95-100	90-98	81-98	55-90	37-57	18-33

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
7C3:												
Atlas-----------	0-4	Silty clay loam	CH, CL	A-7-6, A-6	0	0	100	100	90-100	70-95	40-51	21-29
	4-23	Silty clay loam, clay, clay loam	CH, CL	A-7-6	0	0	100	95-100	86-100	63-95	45-57	25-33
	23-34	Silty clay loam, silty clay, clay loam	CH	A-7-6	0	0	100	95-100	86-100	63-95	41-57	21-33
	34-80	Clay loam, silty clay, loam	CH, CL	A-6, A-7-6	0	0	95-100	90-98	81-98	57-89	37-57	18-33
7D2:												
Atlas-----------	0-7	Silt loam	CL	A-6	0	0	100	100	95-100	71-100	31-41	13-19
	7-13	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	37-47	19-25
	13-26	Silty clay loam, clay, clay loam, silty clay	CH, CL	A-7-6	0	0	100	95-100	86-100	63-95	45-57	25-33
	26-61	Clay loam, clay, silty clay	CH, CL	A-7-6	0	0	100	95-100	86-100	63-95	41-57	21-33
	61-80	Clay loam, silty clay, loam	CH, CL	A-6, A-7-6	0	0	95-100	90-98	81-98	57-89	37-57	18-33
8D:												
Hickory---------	0-4	Silt loam	CL	A-4, A-6, A-7-6	0	0-5	95-100	91-100	82-100	64-93	24-41	7-17
	4-12	Loam	CL	A-4, A-6	0	0-5	95-100	90-100	75-100	50-90	24-33	9-15
	12-46	Clay loam, silty clay loam, gravelly clay loam, loam	CL, SC	A-6, A-7-6	0-1	0-5	95-100	75-100	65-100	42-89	31-46	13-25
	46-58	Loam, clay loam, gravelly clay loam	CL, SC	A-4, A-6, A-7-6	0-1	0-5	85-100	75-95	59-95	42-75	24-42	9-22
	58-80	Loam, sandy loam, gravelly clay loam	CL	A-4, A-6	0-1	0-5	85-100	70-95	55-95	39-75	24-40	9-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
8D2:												
Hickory---------	0-5	Loam	CL	A-6	0	0-5	95-100	90-100	77-100	51-89	30-39	12-17
	5-51	Clay loam, silty clay loam, gravelly clay loam	CL, SC	A-6, A-7-6	0-1	0-5	95-100	75-100	65-100	42-89	37-46	19-25
	51-80	Sandy loam, loam, gravelly clay loam, clay loam	CL, SC	A-4, A-6, A-7-6	0-1	0-5	85-100	75-95	59-95	42-75	24-42	9-22
8D3:												
Hickory---------	0-8	Clay loam	CL	A-6, A-7-6	0	0-5	95-100	90-100	80-100	55-85	37-47	16-25
	8-46	Clay loam, loam, gravelly clay loam	CL, SC	A-6, A-7-6	0-1	0-5	95-100	75-100	65-100	40-85	34-46	16-25
	46-58	Clay loam, loam, gravelly clay loam	CL, SC	A-2-4, A-4, A-6, A-7-6	0-1	0-5	85-100	70-95	55-95	35-80	26-44	10-23
	58-80	Loam, sandy loam, gravelly clay loam	CL, SC	A-2-4, A-6	0-1	0-5	85-100	70-95	55-95	30-75	25-40	9-21
8F:												
Hickory---------	0-4	Silt loam	CL, ML	A-6, A-4	0	0-5	95-100	91-100	85-100	65-95	24-41	7-17
	4-12	Silt loam, loam	CL	A-6, A-4	0	0-5	95-100	91-100	80-100	50-90	25-33	9-15
	12-46	Clay loam, loam, silty clay loam, gravelly clay loam	CL, SC	A-6, A-7-6	0-1	0-5	85-100	70-100	60-100	40-90	34-46	16-25
	46-58	Loam, clay loam, gravelly clay loam	CL, SC	A-6, A-4, A-7-6	0-1	0-5	85-100	70-100	55-100	36-85	25-42	9-22
	58-80	Loam, sandy loam, gravelly clay loam	CL, SC	A-6, A-2-4, A-2-6, A-4	0-1	0-5	85-100	70-97	55-97	30-80	25-40	9-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
8G:												
Hickory---------	0-4	Silt loam	CL	A-4, A-6, A-7-6	0	0-5	95-100	91-100	82-100	64-93	24-41	7-17
	4-12	Loam, silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	75-100	50-90	24-33	9-15
	12-40	Clay loam, silty clay loam, gravelly clay loam	CL, SC	A-6, A-7-6	0-1	0-5	85-100	70-100	60-100	40-90	34-46	16-25
	40-58	Loam, gravelly clay loam	CL, SC	A-7-6, A-4, A-6	0-1	0-5	85-100	70-95	55-95	40-75	24-42	9-22
	58-80	Loam, sandy loam, gravelly clay loam	CL, SC	A-2-4, A-6	0-1	0-5	85-100	56-100	45-95	30-80	24-40	9-21
12A:												
Wynoose---------	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	22-36	6-13
	7-20	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	21-32	6-13
	20-36	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-54	25-31
	36-66	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0	98-100	92-100	80-100	65-90	35-46	17-25
	66-80	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0	98-100	87-100	75-100	60-90	35-46	17-25
13A:												
Bluford---------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-98	22-34	6-12
	7-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-98	25-36	9-17
	20-35	Silty clay, silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	35-60	Silty clay loam, silt loam, loam	CL	A-7-6, A-6	0	0	100	98-100	90-100	70-90	31-46	13-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
13B:												
Bluford---------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-98	22-34	6-12
	7-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-98	25-38	9-17
	20-35	Silty clay, silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	35-60	Silty clay loam, silt loam, loam	CL	A-7-6, A-6	0	0	100	98-100	90-100	70-90	31-46	13-25
14B:												
Ava-------------	0-6	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-99	24-36	7-13
	6-14	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-99	23-32	7-13
	14-34	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-46	17-25
	34-50	Silty clay loam, loam, silt loam, clay loam	CL	A-6	0	0	100	93-100	85-100	65-90	31-41	13-21
	50-60	Loam, silty clay loam, clay loam, silt loam	CL	A-6	0	0	100	97-100	90-100	70-90	29-40	13-21
14C2:												
Ava-------------	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-99	26-36	9-15
	7-31	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-47	17-25
	31-50	Silty clay loam, silt loam, loam, clay loam	CL	A-7-6, A-6	0	0	100	93-100	85-100	65-90	31-42	13-21
	50-60	Silty clay loam, loam, clay loam, silt loam	CL	A-6	0	0	100	97-100	90-100	75-90	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
15C2:												
Parke-----------	0-6	Silt loam	CL	A-4, A-6	0	0	100	100	97-100	92-100	26-39	9-17
	6-25	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	97-100	92-100	31-46	13-25
	25-29	Silt loam	CL	A-6	0	0	100	98-100	90-100	70-90	27-37	12-19
	29-93	Loam, sandy loam, clay loam	CL, SC	A-4, A-6	0	0-1	90-100	85-95	64-95	48-80	24-39	9-21
15D2:												
Parke-----------	0-6	Silt loam	CL	A-4, A-6	0	0	100	100	97-100	93-100	26-39	9-17
	6-25	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	97-100	93-100	31-46	13-25
	25-29	Silt loam	CL	A-6	0	0	100	98-100	85-100	70-90	27-37	12-19
	29-93	Clay loam, loam, sandy loam	CL, SC	A-4, A-6	0	0-1	90-100	85-95	64-95	48-80	24-39	9-21
31A:												
Pierron---------	0-8	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	24-41	7-17
	8-20	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-33	6-15
	20-36	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	95-100	45-56	25-33
	36-66	Silty clay loam, silty clay	CH, CL	A-7-6, A-6	0	0	100	100	95-100	93-100	37-52	19-30
	66-80	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	90-100	75-100	29-40	13-21
46A:												
Herrick---------	0-7	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	28-39	7-13
	7-15	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	35-47	13-19
	15-35	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	43-55	23-31
	35-70	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-50	17-29
	70-80	Silt loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	95-100	75-100	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
48A:												
Ebbert----------	0-11	Silt loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	35-45	13-18
	11-16	Silt loam	CL	A-6	0	0	100	100	100	95-100	27-36	12-17
	16-52	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	100	95-100	37-47	19-25
	52-63	Silt loam	CL	A-6	0	0	100	100	100	95-100	29-38	13-19
	63-80	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	76-100	37-41	19-21
50A:												
Virden----------	0-16	Silty clay loam	CL, MH	A-7-5, A-7-6	0	0	100	100	95-100	95-100	43-57	18-24
	16-49	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	95-100	45-57	25-30
	49-60	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-44	17-23
112A:												
Cowden----------	0-8	Silt loam	CL, ML, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-37	6-13
	8-19	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	26-38	11-19
	19-50	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	46-54	25-31
	50-58	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	29-40	13-21
	58-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	97-100	90-100	70-100	29-40	13-21
113A:												
Oconee----------	0-7	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	25-37	6-13
	7-15	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	27-38	12-19
	15-44	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-54	25-31
	44-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	31-46	13-25
	65-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	70-100	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
113B:												
Oconee----------	0-8	Silt loam	CL-ML, ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	23-38	6-13
	8-16	Silt loam	CL	A-6	0	0	100	100	95-100	94-100	28-38	12-19
	16-47	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	94-100	46-54	25-31
	47-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	94-100	31-46	13-25
	65-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	71-96	29-40	13-21
113B2:												
Oconee----------	0-8	Silt loam	CL-ML, ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	25-44	7-18
	8-35	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	94-100	46-54	25-31
	35-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	94-100	31-46	13-25
	65-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	71-96	29-40	13-21
127A:												
Harrison--------	0-15	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	100	95-100	35-45	13-18
	15-45	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-47	17-25
	45-67	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0	100	98-100	90-100	70-96	31-46	13-25
	67-80	Clay loam, clay, silty clay loam	CH, CL	A-7-6	0-1	0-5	95-100	85-100	77-100	60-96	41-60	21-37

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
127B:												
Harrison--------	0-10	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	100	95-100	35-45	13-18
	10-45	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-47	17-25
	45-65	Silty clay loam, clay loam, silt loam	CL	A-7-6, A-6	0	0	100	98-100	90-100	70-96	31-46	13-25
	65-80	Clay loam, clay, silty clay loam	CH, CL	A-7, A-7-6	0-1	0-5	95-100	85-100	77-100	60-96	41-60	21-37
127B2:												
Harrison--------	0-8	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	100	95-100	33-43	13-18
	8-46	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-47	17-25
	46-65	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0	100	98-100	90-100	70-96	31-46	13-25
	65-80	Clay loam, clay, silty clay loam	CH, CL	A-7-6	0-1	0-5	95-100	85-100	80-100	60-96	41-60	21-37
127C2:												
Harrison--------	0-8	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	100	95-100	33-43	13-18
	8-45	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-47	17-25
	45-65	Silty clay loam, clay loam, silt loam	CL	A-6, A-7-6	0	0	100	98-100	95-100	70-96	31-46	13-25
	65-80	Clay loam, clay, silty clay loam	CH, CL	A-7-6	0-1	0-5	95-100	85-100	80-100	60-96	41-60	21-37
128B:												
Douglas---------	0-11	Silt loam	ML, CL	A-6	0	0	100	100	100	95-100	33-45	13-18
	11-43	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-47	17-25
	43-80	Silt loam, clay loam, loam	CL	A-4, A-6, A-7-6	0	0-1	95-100	85-100	75-100	50-96	24-44	9-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
128C2:												
Douglas---------	0-8	Silt loam	ML, CL	A-4, A-6, A-7-6	0	0	100	100	100	95-100	28-43	9-18
	8-44	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	100	95-100	35-47	17-25
	44-80	Silt loam, clay loam, loam	CL	A-4, A-6, A-7-6	0	0-1	95-100	85-100	75-100	50-96	24-44	9-25
138+:												
Shiloh, overwash	0-10	Silt loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	36-47	11-18
	10-18	Silty clay loam, silty clay	CH, MH	A-7-5, A-7-6	0	0	100	100	100	95-100	53-65	25-30
	18-41	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	100	95-100	46-59	25-33
	41-80	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	33-44	16-25
138A:												
Shiloh----------	0-7	Silty clay loam	CH, MH	A-7-5, A-7-6	0	0	100	100	100	95-100	53-63	25-28
	7-27	Silty clay loam, silty clay	CH, MH	A-7-5, A-7-6	0	0	100	100	100	95-100	53-65	25-30
	27-52	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	100	95-100	46-59	25-33
	52-80	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	33-44	16-25
256C2:												
Pana------------	0-8	Loam	ML, CL	A-4, A-6, A-7-6	0	0	100	95-100	85-100	60-80	26-41	7-17
	8-62	Loam, gravelly clay loam, clay loam	CL, SC	A-6, A-7-6	0	0-1	95-100	65-95	51-95	36-80	31-46	13-25
	62-80	Gravelly loam, sandy loam	SC, SM, SC-SM	A-4, A-1-b, A-2-4	0	0-1	95-100	60-95	30-90	15-60	16-27	2-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
259C2:												
Assumption------	0-8	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	33-43	13-18
	8-24	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-47	17-25
	24-60	Clay loam, silty clay loam, clay	CL, CH	A-7-6	0-1	0-5	95-100	90-100	80-100	63-90	41-56	21-33
287A:												
Chauncey--------	0-13	Silt loam	CL-ML, CL, ML	A-4	0	0	100	100	92-100	80-100	23-41	6-13
	13-28	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	92-100	81-99	21-33	6-13
	28-66	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	87-100	46-54	25-31
	66-80	Silt loam, loam	CL	A-4, A-6	0	0	100	100	83-100	66-90	24-35	9-16
385A:												
Mascoutah-------	0-16	Silty clay loam	ML, MH, CL	A-7-6, A-7-5	0	0	100	100	98-100	95-100	45-57	18-24
	16-21	Silty clay loam	ML, MH, CL	A-7-6, A-7-5	0	0	100	100	98-100	95-100	45-57	18-24
	21-58	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	39-49	19-25
	58-66	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	30-43	13-22
	66-80	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	28-41	12-21
470B2:												
Keller----------	0-6	Silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	95-100	33-43	13-18
	6-26	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-47	19-25
	26-67	Silty clay loam, clay loam, clay	CH, CL	A-7-6	0	0-5	95-100	90-100	80-100	59-90	41-54	21-31
	67-80	Silty clay loam, clay loam, clay	CH, CL	A-7-6	0-1	0-5	95-100	90-100	80-100	59-90	41-54	21-31
515C2:												
Bunkum----------	0-7	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	29-40	12-18
	7-50	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-46	17-25
	50-65	Silt loam	CL	A-6	0	0	100	100	91-100	76-95	28-39	12-19
	65-85	Silt loam	CL	A-4, A-6	0	0	100	100	87-100	72-95	24-38	9-19

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
515C3:												
Bunkum----------	0-8	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	37-47	19-25
	8-40	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-47	17-25
	40-58	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	28-38	12-19
	58-80	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	90-100	70-100	29-40	13-21
517A:												
Marine----------	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	24-35	7-12
	9-17	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	19-30	4-12
	17-43	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-60	25-35
	43-62	Silty clay loam, silt loam	CL	A-6, A-7-6, A-4	0	0	100	100	95-100	95-100	26-46	10-25
	62-80	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	90-100	70-100	29-40	13-21
517B:												
Marine----------	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	7-12
	9-17	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	19-30	4-12
	17-43	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-60	25-35
	43-62	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	26-46	10-25
	62-80	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	90-100	70-100	29-40	13-21
533.												
Urban land												
536.												
Dumps, mine												

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
581B:												
Tamalco---------	0-6	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	29-43	9-18
	6-9	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	27-37	12-17
	9-17	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	45-57	25-33
	17-42	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-47	13-25
	42-84	Silt loam, loam, clay loam, silty clay loam	CL	A-6	0	0	100	98-100	84-100	61-88	29-41	13-21
581B2:												
Tamalco---------	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	31-41	13-19
	9-19	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-57	25-33
	19-39	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	33-47	15-25
	39-60	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	70-100	29-40	13-21
582B:												
Homen-----------	0-9	Silt loam	ML, CL	A-7-6, A-6	0	0	100	100	97-100	93-100	29-43	12-18
	9-14	Silt loam	CL	A-4, A-6	0	0	100	100	96-100	92-100	25-38	9-19
	14-42	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	97-100	93-100	38-46	19-25
	42-77	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	94-100	87-99	31-44	13-23
	77-92	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	94-100	81-98	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
582C:												
Homen-----------	0-9	Silt loam	ML, CL	A-7-6, A-6	0	0	100	100	97-100	93-100	29-43	12-18
	9-14	Silt loam	CL	A-4, A-6	0	0	100	100	96-100	92-100	25-38	9-19
	14-42	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	97-100	93-100	38-46	19-25
	42-77	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	94-100	87-99	31-44	13-23
	77-92	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	94-100	81-98	29-40	13-21
582C2:												
Homen-----------	0-7	Silt loam	CL	A-7-6, A-6	0	0	100	100	97-100	93-100	29-41	12-19
	7-41	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	97-100	93-100	38-46	19-25
	41-77	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	94-100	87-99	31-44	13-23
	77-92	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	100	100	94-100	81-98	29-40	13-21
583A:												
Pike------------	0-6	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	98-100	95-100	27-43	9-18
	6-10	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	95-100	25-38	9-19
	10-46	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	34-46	16-25
	46-60	Silt loam	CL	A-6	0	0	100	98-100	90-100	65-90	27-37	12-19
	60-80	Loam, clay loam	CL	A-4, A-6	0	0-1	95-100	85-100	82-100	60-92	24-40	9-21
583B:												
Pike------------	0-5	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	98-100	95-100	27-43	9-18
	5-11	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	95-100	25-38	9-19
	11-46	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	34-46	16-25
	46-57	Silt loam	CL	A-6	0	0	100	98-100	90-100	65-90	27-37	12-19
	57-99	Loam, clay loam	CL	A-4, A-6	0	0-1	95-100	85-100	80-100	60-90	24-40	9-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
583C2:												
Pike------------	0-5	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	98-100	95-100	27-41	9-19
	5-41	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	34-46	16-25
	41-51	Silt loam	CL	A-6	0	0	100	98-100	90-100	65-90	27-37	12-19
	51-88	Loam, clay loam	CL	A-4, A-6	0	0-1	95-100	85-100	80-100	60-90	24-40	9-21
583D2:												
Pike------------	0-4	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	98-100	95-100	27-41	9-19
	4-35	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	34-46	16-25
	35-46	Silt loam	CL	A-6	0	0	100	98-100	96-100	75-90	27-37	12-19
	46-80	Loam, clay loam	CL	A-4, A-6	0	0-1	95-100	85-100	80-100	60-90	24-40	9-21
680B:												
Campton---------	0-12	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	27-43	9-18
	12-50	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-47	17-25
	50-71	Silt loam, loam	CL	A-4, A-6	0	0	100	95-100	80-100	60-85	24-38	9-19
	71-80	Loam, silt loam	CL	A-4, A-6	0	0	100	95-100	75-100	50-83	24-38	9-19
790A:												
Herrick---------	0-7	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	28-39	7-13
	7-15	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	35-47	13-19
	15-35	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	43-55	23-31
	35-70	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-50	17-29
	70-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	71-100	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
790A:												
Biddle----------	0-7	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	98-100	95-100	28-39	7-13
	7-16	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	35-47	13-19
	16-36	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	98-100	95-100	46-54	25-31
	36-76	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	31-49	13-27
	76-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	71-100	27-40	12-21
802B:												
Orthents, loamy	0-6	Loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-80	33-45	15-21
	6-60	Loam, silt loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-85	33-43	15-21
802E:												
Orthents, loamy	0-6	Loam	CL	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-85	33-45	15-21
	6-60	Loam, silt loam, clay loam	CL	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-85	31-43	13-21
830.												
Landfills												
835G.												
Earthen dam												
864.												
Pits, quarries												

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
871B:												
Lenzburg--------	0-5	Silt loam, loam	CL, SC	A-7-6, A-6	0-1	2-10	80-100	75-100	65-100	40-90	32-42	13-19
	5-37	Silt loam, silty clay loam, clay loam	CL, SC	A-6, A-7-6	0-2	2-10	80-95	75-90	65-90	40-80	31-47	13-25
	37-80	Silty clay loam, silt loam, gravelly loam, channery silty clay loam, clay loam	CL, SC	A-6, A-7-6	0-2	5-15	75-95	70-90	60-90	35-80	31-47	13-25
871D:												
Lenzburg--------	0-5	Silty clay loam	CL	A-6, A-7-6	0-1	2-10	80-100	75-100	65-100	40-90	32-47	13-25
	5-37	Silt loam, silty clay loam, clay loam	CL	A-6, A-7-6	0-2	2-10	80-95	75-90	65-90	40-80	31-47	13-25
	37-80	Silty clay loam, silt loam, gravelly loam, channery silty clay loam, clay loam	CL	A-6, A-7-6	0-2	5-15	75-95	70-90	60-90	40-80	31-47	13-25
871G:												
Lenzburg--------	0-5	Silty clay loam	CL, SC	A-6, A-7-6	0-1	2-10	80-100	75-100	65-100	40-90	32-47	13-25
	5-37	Silt loam, silty clay loam, clay loam	CL, SC	A-6, A-7-6	0-2	2-10	80-95	75-90	65-90	40-80	31-47	13-25
	37-80	Silty clay loam, silt loam, gravelly loam, channery silty clay loam, clay loam	CL, SC	A-6, A-7-6	0-2	5-15	75-95	70-90	60-90	40-80	31-47	13-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
882A:												
Oconee----------	0-8	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	25-37	6-13
	8-16	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	27-38	12-19
	16-47	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	46-54	25-31
	47-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-47	13-25
	65-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	70-100	29-40	13-21
Darmstadt-------	0-8	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	24-43	7-18
	8-11	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-38	7-19
	11-27	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-47	19-25
	27-39	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-47	13-25
	39-62	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	29-40	13-21
	62-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	70-97	29-40	13-21
Coulterville----	0-7	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	27-43	9-18
	7-15	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	33-47	15-25
	15-23	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	33-47	15-25
	23-56	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	27-47	10-25
	56-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6, A-4	0	0	100	100	90-100	70-95	25-40	9-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
882B:												
Oconee----------	0-8	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	23-38	6-13
	8-16	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	28-38	12-19
	16-47	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-54	25-31
	47-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-46	13-25
	65-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	70-100	29-40	13-21
Darmstadt-------	0-11	Silt loam	CL, CL-ML	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	24-43	7-18
	11-21	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-47	19-25
	21-39	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-47	13-25
	39-62	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	29-40	13-21
	62-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	70-97	29-40	13-21
Coulterville----	0-7	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	27-43	9-18
	7-15	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	33-47	15-25
	15-68	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	27-47	10-25
	68-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6, A-4	0	0	100	100	90-100	70-100	25-40	9-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
882B2:												
Oconee----------	0-8	Silt loam	CL-ML, CL	A-6, A-4, A-7-6	0	0	100	100	95-100	95-100	25-43	7-18
	8-47	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-54	25-31
	47-65	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-46	13-25
	65-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	95-100	71-100	29-40	13-21
Darmstadt-------	0-11	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	24-41	7-19
	11-21	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-47	19-25
	21-39	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-47	13-25
	39-62	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	29-40	13-21
	62-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	90-100	70-97	29-40	13-21
Coulterville----	0-7	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	27-41	9-19
	7-15	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	33-47	15-25
	15-68	Silty clay loam, silt loam	CL	A-6, A-4, A-7-6	0	0	100	100	95-100	95-100	27-47	10-25
	68-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6, A-4	0	0	100	100	95-100	76-100	25-40	9-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
885A:												
Virden----------	0-15	Silt loam	ML	A-6, A-7-5, A-7-6	0	0	100	100	95-100	95-100	35-49	13-18
	15-74	Silty clay loam, silty clay, silt loam	CH, CL	A-7-6, A-6	0	0	100	100	95-100	95-100	38-56	18-30
	74-80	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-44	13-23
Fosterburg------	0-13	Silt loam	ML, CL	A-6, A-7-6, A-7-5	0	0	100	100	98-100	95-100	37-49	13-18
	13-20	Silty clay loam	CL, MH	A-7-5, A-7-6	0	0	100	100	98-100	95-100	43-57	18-24
	20-41	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	98-100	95-100	47-57	25-30
	41-71	Silty clay loam, silt loam	CH, CL	A-7-6, A-6	0	0	100	100	98-100	95-100	35-51	16-29
	71-80	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	27-38	12-19
894A:												
Herrick---------	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	28-39	7-13
	7-15	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	35-47	13-19
	15-35	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	43-55	23-31
	35-70	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-50	17-29
	70-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	70-100	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
894A:												
Biddle----------	0-7	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	98-100	95-100	28-39	7-13
	7-16	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	35-47	13-19
	16-36	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	98-100	95-100	46-54	25-31
	36-76	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	31-49	13-27
	76-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	70-100	27-40	12-21
Piasa-----------	0-8	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	25-39	6-13
	8-12	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	28-38	12-19
	12-37	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-55	25-31
	37-48	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	29-45	13-25
	48-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	92-100	90-100	70-100	29-40	13-21
897C2:												
Bunkum----------	0-8	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	29-40	12-18
	8-40	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	36-47	17-25
	40-58	Silt loam	CL	A-6	0	0	100	100	91-100	76-95	28-39	12-19
	58-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	95-100	85-100	65-100	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
897C2:												
Atlas-----------	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	65-100	31-41	13-19
	9-31	Silty clay loam, clay, clay loam	CL, CH	A-7-6	0	0	100	95-100	87-100	64-95	45-57	25-33
	31-51	Silty clay loam, silty clay, clay loam, clay	CL, CH	A-7-6	0	0	100	95-100	87-100	64-95	41-57	21-33
	51-80	Silty clay, clay loam, loam	CH, CL	A-6, A-7-6	0	0	95-100	90-98	82-98	59-89	37-57	18-33
912B2:												
Hoyleton--------	0-7	Silt loam	CL, CL-ML	A-4, A-6, A-7-6	0	0	100	100	96-100	85-100	22-42	6-18
	7-30	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	96-100	91-100	46-58	25-34
	30-80	Silt loam, silty clay loam, clay loam, loam	CL	A-7-6, A-6	0	0	100	95-100	84-100	60-97	28-44	12-25
Darmstadt-------	0-8	Silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	24-41	7-19
	8-21	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-47	19-25
	21-39	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	31-47	13-25
	39-62	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	29-40	13-21
	62-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	95-100	90-100	65-100	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
991A:												
Cisne-----------	0-8	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	23-38	6-13
	8-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	21-32	6-13
	17-37	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-56	25-33
	37-60	Silty clay loam, silt loam, clay loam, loam	CL	A-6, A-7-6	0	0	95-100	84-100	75-99	60-90	31-46	13-25
	60-80	Silt loam, loam, clay loam, silty clay loam	CL	A-7-6, A-6	0	0	95-100	82-97	75-97	55-90	29-44	13-25
Huey------------	0-8	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	22-36	6-13
	8-10	Silt, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	21-32	6-13
	10-18	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	35-46	17-25
	18-49	Silty clay loam, silt loam, silty clay	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	17-30
	49-65	Silt loam, loam, silty clay loam	CL	A-7-6, A-6	0	0	95-100	82-97	75-97	55-90	29-44	13-25
993A:												
Cowden----------	0-8	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	25-37	6-13
	8-19	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	26-38	11-19
	19-50	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-54	25-31
	50-58	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	29-40	13-21
	58-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	70-100	29-40	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
993A:												
Piasa-----------	0-8	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	25-39	6-13
	8-12	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	28-38	12-19
	12-37	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	46-55	25-31
	37-48	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	29-45	13-25
	48-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	92-100	90-100	70-100	29-40	13-21
998F:												
Hickory---------	0-3	Loam	CL, ML	A-6, A-4, A-7-6	0	0-5	95-100	91-100	82-100	57-85	24-41	7-17
	3-9	Loam	CL	A-6, A-4	0	0-5	95-100	91-100	76-100	51-75	22-33	7-15
	9-36	Clay loam, loam, silty clay loam, gravelly clay loam	CL, SC	A-6, A-7-6	0-1	0-5	85-100	70-100	60-100	40-90	34-46	16-25
	36-53	Loam, clay loam, gravelly clay loam	SC, CL	A-6, A-4, A-7-6	0-1	0-5	85-100	70-100	53-100	36-84	25-42	9-22
	53-80	Loam, sandy loam, gravelly clay loam	CL, SC-SM, SC	A-6, A-4	0-1	0-5	85-100	70-97	53-96	30-79	25-40	9-21
Negley----------	0-2	Loam	CL, ML	A-6, A-4, A-7-6	0	0-5	95-100	91-100	82-100	57-85	24-41	7-17
	2-8	Loam	CL	A-6, A-4	0	0-5	95-100	91-100	76-100	51-75	22-33	7-15
	8-80	Clay loam, gravelly clay loam, gravelly sandy loam, loam	CL, SC	A-2-6, A-7-6	0	0-3	80-95	70-90	50-90	25-60	29-46	12-25
3074A:												
Radford---------	0-12	Silt loam	ML, CL	A-6, A-7-6	0	0	100	100	98-100	85-100	31-45	11-18
	12-33	Silt loam	CL	A-6	0	0	100	100	98-100	85-100	27-41	12-19
	33-80	Silt loam, silty clay loam, clay loam	CL, ML, MH	A-6, A-7-5, A-7-6	0	0	100	100	95-100	70-98	39-56	16-24

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
3107A:												
Sawmill---------	0-10	Silty clay loam	CL, ML, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-99	46-60	18-24
	10-32	Silty clay loam	CL, ML, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-99	46-60	18-24
	32-58	Silty clay loam	CL, CH	A-7-5, A-7-6	0	0	100	100	95-100	85-98	40-52	19-25
	58-65	Silty clay loam, clay loam	CL, MH, CH	A-7-5, A-7-6, A-6	0	0	100	97-100	90-100	80-98	36-52	17-25
3225A:												
Holton----------	0-10	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	90-100	70-85	27-41	9-17
	10-36	Loam, loamy sand, silt loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2-4	0	0	98-100	95-100	70-100	30-84	21-31	6-12
	36-60	Loam, loamy sand, sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4, A-6	0	0	98-100	95-100	55-95	30-68	20-29	6-12
3451A:												
Lawson----------	0-14	Silt loam	ML, CL, CL-ML	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	25-45	6-18
	14-33	Silt loam, silty clay loam	ML, CL, CL-ML	A-6, A-7-6, A-4	0	0	100	100	95-100	85-100	25-47	6-21
	33-80	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	90-100	60-100	27-43	12-21
7242A:												
Kendall---------	0-9	Silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	92-100	31-43	13-18
	9-13	Silt loam	CL	A-6	0	0	100	100	95-100	92-100	27-37	12-17
	13-49	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	92-100	37-46	19-25
	49-60	Silt loam, loam	CL	A-6, A-4	0	0	98-100	98-100	75-100	50-85	24-38	9-19
7788B:												
Shoals----------	0-14	Loam	CL	A-6, A-7-6	0	0	99-100	95-100	86-100	60-85	29-41	12-17
	14-72	Loam, clay loam, sandy loam, sandy clay loam	CL	A-6, A-7-6	0	0	99-100	95-100	85-100	54-90	28-41	12-21
	72-88	Sandy loam, loam, clay loam	CL	A-6, A-7-6	0	0	99-100	85-100	78-100	42-85	30-43	13-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
7788B:												
Terril----------	0-12	Loam	ML, CL	A-6, A-7-6	0	0-3	95-100	90-100	80-100	54-85	29-43	9-17
	12-81	Loam, clay loam, sandy clay loam	SC, CL	A-6	0	0-3	95-100	90-100	81-100	44-85	22-45	7-25
	81-92	Loam, clay loam	SC, CL	A-6, A-7-6	0	0-3	95-100	90-100	81-100	42-85	28-49	12-28
8109A:												
Racoon----------	0-13	Silt loam	CL	A-6, A-4	0	0	100	100	89-100	83-100	26-40	9-17
	13-33	Silt loam	CL	A-6, A-4	0	0	100	100	90-100	83-100	25-36	9-17
	33-55	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	92-100	83-100	37-46	19-25
	55-87	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	85-100	80-94	37-46	19-25

Table 20.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
2A:														
Cisne---------------	0-8	1-10	70-83	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	3	5	56
	8-17	0-10	70-87	10-20	1.40-1.60	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.64	.64			
	17-37	0-10	50-65	35-45	1.30-1.50	0.02-0.2	0.12-0.18	6.0-8.9	0.2-0.5	.43	.43			
	37-60	15-30	38-61	20-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.5	.43	.43			
	60-80	15-35	31-62	20-35	1.50-1.70	0.2-0.6	0.13-0.19	0.0-2.9	0.0-0.3	.43	.43			
3A:														
Hoyleton------------	0-8	1-16	57-87	12-27	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	8-11	1-16	57-81	18-27	1.30-1.50	0.2-0.6	0.16-0.22	0.0-2.9	0.3-0.8	.55	.55			
	11-39	1-10	45-64	35-45	1.30-1.50	0.06-0.6	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	39-80	6-40	25-75	19-35	1.40-1.60	0.2-0.6	0.15-0.18	0.0-5.9	0.0-0.3	.43	.49			
3B:														
Hoyleton------------	0-8	1-16	57-87	12-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	8-15	1-16	57-81	18-27	1.30-1.50	0.2-0.6	0.17-0.21	0.0-2.9	0.3-0.8	.55	.55			
	15-34	1-10	45-64	35-45	1.30-1.50	0.06-0.6	0.12-0.16	6.0-8.9	0.2-0.5	.37	.37			
	34-60	6-40	25-75	19-35	1.40-1.60	0.2-0.6	0.15-0.18	0.0-5.9	0.0-0.3	.43	.49			
3B2:														
Hoyleton------------	0-7	1-16	57-87	12-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-2.5	.37	.37	5	6	48
	7-30	1-10	45-64	35-45	1.30-1.50	0.06-0.6	0.12-0.16	6.0-8.9	0.2-0.5	.32	.32			
	30-60	6-40	25-75	19-35	1.40-1.60	0.2-0.6	0.15-0.18	0.0-5.9	0.0-0.3	.43	.49			
5C2:														
Blair---------------	0-5	1-14	60-74	20-27	1.30-1.55	0.6-2	0.15-0.24	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	5-20	1-25	50-70	25-35	1.45-1.60	0.2-0.6	0.16-0.21	3.0-5.9	0.2-0.8	.37	.37			
	20-71	10-25	50-70	18-35	1.45-1.60	0.2-0.6	0.16-0.21	0.0-2.9	0.1-0.5	.37	.37			
	71-80	10-35	45-65	15-35	1.35-1.70	0.2-0.6	0.19-0.22	3.0-5.9	0.1-0.3	.37	.37			
5C3:														
Blair---------------	0-5	1-13	60-72	27-35	1.30-1.55	0.6-2	0.15-0.24	3.0-5.9	0.5-1.0	.37	.37	4	6	48
	5-20	1-25	50-70	25-35	1.45-1.60	0.2-0.6	0.16-0.21	3.0-5.9	0.2-0.8	.37	.37			
	20-71	10-25	50-70	18-35	1.45-1.60	0.2-0.6	0.16-0.21	0.0-2.9	0.1-0.5	.37	.37			
	71-80	10-35	45-65	15-35	1.35-1.70	0.2-0.6	0.19-0.22	3.0-5.9	0.1-0.3	.37	.37			
6B2:														
Fishhook------------	0-7	1-7	66-79	20-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	4	6	48
	7-29	1-7	58-72	27-35	1.40-1.60	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	29-60	15-35	20-50	35-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-1.0	.28	.28			
	60-80	15-35	20-50	20-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-1.0	.28	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
6C2:														
Fishhook------------	0-6	1-7	66-79	20-27	1.30-1.50	0.6-2	0.14-0.24	0.0-2.9	1.0-2.0	.43	.43	4	6	48
	6-27	1-7	58-72	27-35	1.40-1.60	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	27-58	15-35	20-50	35-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-0.5	.28	.28			
	58-80	15-35	20-50	20-45	1.55-1.75	0.06-0.2	0.09-0.16	6.0-8.9	0.0-1.0	.28	.28			
7C2:														
Atlas---------------	0-7	5-30	50-75	20-27	1.30-1.50	0.2-0.6	0.20-0.25	0.0-2.9	1.0-2.0	.32	.32	3	6	48
	7-13	1-7	58-72	27-35	1.40-1.60	0.2-0.6	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	13-26	10-35	20-55	35-45	1.35-1.55	0.01-0.06	0.07-0.17	6.0-8.9	0.0-1.0	.28	.28			
	26-61	10-35	20-60	30-45	1.35-1.55	0.01-0.06	0.07-0.17	6.0-8.9	0.0-1.0	.28	.28			
	61-80	15-40	20-50	25-45	1.35-1.60	0.06-0.2	0.07-0.18	6.0-8.9	0.0-1.0	.28	.28			
7C3:														
Atlas---------------	0-4	10-20	40-60	30-40	1.35-1.55	0.06-0.2	0.20-0.25	3.0-5.9	0.5-1.0	.28	.28	2	6	48
	4-23	10-35	20-55	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	23-34	10-35	20-60	30-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	34-80	15-40	20-50	25-45	1.35-1.60	0.06-0.2	0.07-0.18	6.0-8.9	0.0-1.0	.28	.28			
7D2:														
Atlas---------------	0-7	5-30	50-75	20-27	1.30-1.50	0.2-0.6	0.20-0.25	0.0-2.9	1.0-2.0	.32	.32	3	6	48
	7-13	1-7	58-72	27-35	1.40-1.60	0.2-0.6	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	13-26	10-35	20-55	35-45	1.35-1.55	0.01-0.06	0.07-0.17	6.0-8.9	0.0-1.0	.28	.28			
	26-61	10-35	20-60	30-45	1.35-1.55	0.01-0.06	0.07-0.17	6.0-8.9	0.0-1.0	.28	.28			
	61-80	15-40	20-50	25-45	1.35-1.60	0.06-0.2	0.07-0.18	6.0-8.9	0.0-1.0	.28	.28			
8D:														
Hickory-------------	0-4	10-30	50-78	12-25	1.30-1.50	0.6-2	0.13-0.17	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.19-0.21	0.0-2.9	0.0-0.5	.37	.37			
	12-46	15-45	20-58	20-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	46-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-80	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
8D2:														
Hickory-------------	0-5	25-50	30-50	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	5-51	15-45	20-58	27-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	51-80	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
8D3:														
Hickory-------------	0-8	20-40	30-50	27-35	1.40-1.65	0.6-2	0.17-0.19	3.0-5.9	0.2-1.0	.32	.32	4	6	48
	8-46	20-45	30-50	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.1-0.5	.28	.32			
	46-58	25-49	28-50	15-32	1.50-1.70	0.6-2	0.11-0.19	3.0-5.9	0.1-0.5	.28	.32			
	58-80	30-55	25-50	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.1-0.5	.28	.32			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
8F:														
Hickory-------------	0-4	10-30	50-78	12-25	1.30-1.50	0.6-2	0.17-0.23	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.14-0.20	0.0-2.9	0.1-0.5	.43	.49			
	12-46	15-45	30-50	24-35	1.45-1.65	0.6-2	0.10-0.16	3.0-5.9	0.1-0.5	.28	.32			
	46-58	25-49	28-50	15-32	1.50-1.70	0.2-2	0.10-0.16	0.0-2.9	0.1-0.5	.32	.37			
	58-80	30-55	25-50	15-30	1.50-1.75	0.2-0.6	0.09-0.15	0.0-2.9	0.1-0.5	.37	.43			
8G:														
Hickory-------------	0-4	10-30	50-78	12-25	1.30-1.50	0.6-2	0.13-0.17	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.19-0.21	0.0-2.9	0.0-0.5	.37	.37			
	12-40	15-45	20-58	24-35	1.45-1.65	0.6-2	0.13-0.16	3.0-5.9	0.0-0.5	.28	.32			
	40-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	58-80	30-45	25-55	15-30	1.50-1.75	0.6-2	0.09-0.13	0.0-2.9	0.0-0.5	.28	.32			
12A:														
Wynoose-------------	0-7	0-15	68-80	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	3	5	56
	7-20	0-15	67-80	10-20	1.30-1.50	0.2-0.6	0.19-0.25	0.0-2.9	0.3-0.8	.64	.64			
	20-36	0-10	51-64	35-42	1.30-1.50	0.02-0.2	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	36-66	15-30	39-59	25-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.3	.43	.43			
	66-80	15-36	39-59	25-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.3	.43	.43			
13A:														
Bluford-------------	0-7	5-12	70-79	10-18	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	7-20	5-10	70-80	15-25	1.35-1.55	0.2-0.6	0.19-0.25	0.0-2.9	0.2-0.8	.55	.55			
	20-35	0-8	50-64	35-45	1.30-1.50	0.06-0.6	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	35-60	15-30	40-64	20-35	1.50-1.70	0.06-0.2	0.07-0.13	3.0-5.9	0.0-0.3	.43	.49			
13B:														
Bluford-------------	0-7	5-12	70-79	10-18	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	7-20	5-10	70-80	15-25	1.35-1.55	0.2-0.6	0.20-0.26	0.0-2.9	0.2-1.5	.55	.55			
	20-35	0-8	50-64	35-45	1.30-1.50	0.2-0.6	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	35-60	15-30	40-64	20-35	1.50-1.70	0.06-0.2	0.07-0.13	3.0-5.9	0.0-0.3	.43	.49			
14B:														
Ava-----------------	0-6	2-8	73-83	12-20	1.35-1.55	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	4	5	56
	6-14	2-8	73-83	12-20	1.35-1.55	0.2-0.6	0.19-0.25	0.0-2.9	0.3-0.8	.64	.64			
	14-34	0-8	58-74	25-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.49	.49			
	34-50	16-30	42-61	20-30	1.55-1.75	0.02-0.06	0.02-0.08	3.0-5.9	0.0-0.3	.49	.49			
	50-60	16-30	42-61	20-30	1.55-1.75	0.06-0.6	0.10-0.16	0.0-2.9	0.0-0.3	.49	.49			
14C2:														
Ava-----------------	0-7	2-14	70-82	15-22	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.5-2.0	.37	.37	4	6	48
	7-31	0-8	58-74	25-35	1.35-1.55	0.2-0.6	0.13-0.19	3.0-5.9	0.3-0.8	.43	.43			
	31-50	16-30	42-61	20-30	1.55-1.75	0.02-0.06	0.02-0.08	3.0-5.9	0.2-0.5	.43	.43			
	50-60	16-25	45-61	20-30	1.55-1.75	0.06-0.6	0.12-0.18	0.0-2.9	0.0-0.3	.43	.43			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
15C2:														
Parke---------------	0-6	2-8	67-78	15-25	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.37	.37	5	6	48
	6-25	2-8	57-70	20-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	25-29	15-32	50-67	18-27	1.30-1.60	0.6-2	0.12-0.18	0.0-2.9	0.0-0.2	.43	.43			
	29-93	22-44	26-48	15-30	1.55-1.65	0.6-2	0.16-0.18	0.0-2.9	0.0-0.2	.28	.32			
15D2:														
Parke---------------	0-6	2-8	67-80	15-25	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-25	2-8	57-70	20-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	25-29	15-32	50-67	18-27	1.30-1.60	0.6-2	0.12-0.18	0.0-2.9	0.0-0.2	.37	.37			
	29-93	22-44	26-48	15-30	1.55-1.65	0.6-2	0.16-0.18	0.0-2.9	0.0-0.2	.28	.32			
31A:														
Pierron-------------	0-8	1-7	71-85	12-25	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	8-20	1-7	71-88	10-22	1.30-1.50	0.06-0.2	0.15-0.20	0.0-2.9	0.1-0.5	.55	.55			
	20-36	1-7	48-64	35-45	1.35-1.60	0.01-0.06	0.10-0.18	6.0-8.9	0.1-0.5	.37	.37			
	36-66	1-7	54-70	27-42	1.35-1.60	0.01-0.06	0.12-0.18	3.0-5.9	0.1-0.5	.37	.37			
	66-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
46A:														
Herrick-------------	0-7	1-7	73-85	12-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	5	56
	7-15	1-7	66-78	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-5.9	3.0-4.0	.28	.28			
	15-35	1-7	51-63	32-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.2-1.0	.37	.37			
	35-70	1-7	55-73	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	70-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
48A:														
Ebbert--------------	0-11	0-7	66-78	20-27	1.20-1.40	0.2-0.6	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-16	0-7	68-78	18-25	1.30-1.50	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.43	.43			
	16-52	0-7	58-73	27-35	1.35-1.55	0.06-0.2	0.18-0.20	3.0-5.9	0.1-1.0	.37	.37			
	52-63	0-7	66-75	20-27	1.50-1.70	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	63-80	5-20	50-68	27-30	1.40-1.60	0.2-0.6	0.17-0.22	3.0-5.9	0.1-0.3	.37	.37			
50A:														
Virden--------------	0-16	0-7	58-73	27-35	1.20-1.40	0.6-2	0.21-0.24	3.0-5.9	3.0-6.0	.24	.24	5	6	48
	16-49	0-7	51-65	35-42	1.20-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.0-2.0	.37	.37			
	49-60	0-7	60-75	25-33	1.25-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
112A:														
Cowden--------------	0-8	1-7	73-85	10-20	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	3	5	56
	8-19	1-7	68-80	17-27	1.25-1.45	0.06-0.2	0.18-0.20	0.0-2.9	0.1-0.5	.49	.49			
	19-50	1-7	51-63	35-42	1.35-1.60	0.06-0.2	0.12-0.20	6.0-8.9	0.2-0.8	.37	.37			
	50-58	1-7	65-79	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
113A:														
Oconee	0-7	1-7	73-85	10-20	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	5	56
	7-15	1-7	66-80	18-27	1.30-1.45	0.06-0.2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	15-44	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.8	.37	.37			
	44-65	1-7	58-78	20-35	1.40-1.60	0.06-0.2	0.16-0.21	3.0-5.9	0.2-0.5	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
113B:														
Oconee	0-8	1-7	73-85	10-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.5-3.5	.37	.37	5	5	56
	8-16	1-7	66-80	18-27	1.30-1.45	0.2-0.6	0.20-0.22	0.0-2.9	0.3-0.8	.49	.49			
	16-47	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	47-65	1-7	58-78	20-35	1.40-1.60	0.2-0.6	0.16-0.21	3.0-5.9	0.1-0.3	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-2	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
113B2:														
Oconee	0-8	1-10	70-83	12-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	8-35	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.5	.37	.37			
	35-65	1-7	58-78	20-35	1.40-1.60	0.2-0.6	0.16-0.21	3.0-5.9	0.1-0.3	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-2	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
127A:														
Harrison	0-15	0-7	68-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	15-45	0-7	60-75	25-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37			
	45-67	5-30	45-75	20-35	1.30-1.45	0.6-2	0.14-0.20	3.0-5.9	0.0-0.2	.37	.37			
	67-80	5-30	30-65	30-50	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.2	.28	.28			
127B:														
Harrison	0-10	0-7	68-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	10-45	0-7	60-75	25-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37			
	45-65	5-30	45-75	20-35	1.30-1.45	0.6-2	0.14-0.20	3.0-5.9	0.0-0.2	.37	.37			
	65-80	5-30	30-65	30-50	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.2	.28	.28			
127B2:														
Harrison	0-8	0-7	68-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-46	0-7	60-75	25-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37			
	46-65	5-30	45-75	20-35	1.30-1.45	0.6-2	0.14-0.20	3.0-5.9	0.0-0.2	.37	.37			
	65-80	5-30	30-65	30-50	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.2	.28	.28			
127C2:														
Harrison	0-8	0-7	68-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-45	0-7	60-75	25-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37			
	45-65	5-30	45-75	20-35	1.30-1.45	0.6-2	0.14-0.20	3.0-5.9	0.0-0.2	.37	.37			
	65-80	5-30	30-65	30-50	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.2	.28	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
128B:														
Douglas-------------	0-11	0-7	68-80	20-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	11-43	0-7	60-75	25-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.37	.37			
	43-80	15-40	35-70	15-35	1.45-1.70	0.6-6	0.11-0.22	0.0-2.9	0.0-0.2	.37	.37			
128C2:														
Douglas-------------	0-8	0-7	68-80	14-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-44	0-7	60-75	25-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.37	.37			
	44-80	15-40	35-70	15-35	1.45-1.70	0.6-6	0.11-0.22	0.0-2.9	0.0-0.2	.37	.37			
138+:														
Shiloh, overwash----	0-10	0-15	58-82	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.32	.32	5	6	48
	10-18	0-7	53-65	35-42	1.30-1.50	0.2-0.6	0.18-0.21	6.0-8.9	4.0-6.0	.24	.24			
	18-41	0-7	48-65	35-45	1.35-1.55	0.2-0.6	0.09-0.18	6.0-8.9	0.5-2.0	.37	.37			
	41-80	0-7	58-75	24-35	1.30-1.50	0.2-0.6	0.18-0.20	0.0-2.9	0.2-0.5	.49	.49			
138A:														
Shiloh--------------	0-7	0-7	53-65	35-40	1.30-1.50	0.2-0.6	0.18-0.21	6.0-8.9	4.0-6.0	.24	.24	5	4	86
	7-27	0-7	53-65	35-42	1.30-1.50	0.2-0.6	0.18-0.21	6.0-8.9	4.0-6.0	.24	.24			
	27-52	0-7	48-65	35-45	1.35-1.55	0.2-0.6	0.09-0.18	6.0-8.9	0.5-2.0	.37	.37			
	52-80	0-7	58-75	24-35	1.30-1.50	0.2-0.6	0.18-0.20	0.0-2.9	0.2-0.5	.49	.49			
256C2:														
Pana----------------	0-8	25-38	45-50	12-25	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28	.28	5	6	48
	8-62	25-45	20-40	20-35	1.45-1.65	0.6-2	0.10-0.15	3.0-5.9	0.0-0.5	.28	.32			
	62-80	50-75	10-35	5-15	1.70-2.00	2-20	0.02-0.12	0.0-2.9	0.0-0.5	.20	.24			
259C2:														
Assumption----------	0-8	0-7	66-80	20-27	1.25-1.45	0.6-2	0.23-0.25	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-24	0-7	58-75	25-35	1.20-1.40	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.37	.37			
	24-60	15-35	25-50	30-45	1.45-1.65	0.06-0.2	0.14-0.20	6.0-8.9	0.0-0.5	.28	.28			
287A:														
Chauncey------------	0-13	2-20	60-80	10-20	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.5-5.0	.32	.32	5	5	56
	13-28	3-18	62-80	10-20	1.40-1.60	0.2-0.6	0.20-0.25	0.0-2.9	0.5-1.0	.43	.43			
	28-66	0-13	45-65	35-42	1.30-1.50	0.06-0.2	0.12-0.16	6.0-8.9	0.2-0.5	.37	.37			
	66-80	15-35	41-71	14-24	1.50-1.70	0.2-0.6	0.15-0.18	0.0-2.9	0.0-0.3	.49	.49			
385A:														
Mascoutah-----------	0-16	1-7	58-72	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.24	.24	5	6	48
	16-21	1-7	58-72	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.24	.24			
	21-58	1-7	58-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.37	.37			
	58-66	1-7	61-78	20-32	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-1.0	.37	.37			
	66-80	1-7	64-80	18-30	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
470B2:														
Keller--------------	0-6	0-7	66-75	20-27	1.30-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	4	6	48
	6-26	0-7	58-72	27-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	26-67	15-35	25-50	30-42	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.5	.28	.28			
	67-80	15-35	25-50	30-42	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.5	.28	.28			
515C2:														
Bunkum--------------	0-7	0-7	67-82	18-26	1.25-1.35	0.2-0.6	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-50	0-7	58-75	25-35	1.25-1.45	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.37	.37			
	50-65	8-25	48-74	18-27	1.30-1.50	0.2-0.6	0.18-0.22	0.0-2.9	0.5-1.0	.37	.37			
	65-85	8-25	48-77	15-27	1.30-1.55	0.2-0.6	0.18-0.22	0.0-2.9	0.0-0.5	.37	.37			
515C3:														
Bunkum--------------	0-8	1-7	58-72	27-35	1.25-1.35	0.2-0.6	0.20-0.24	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	8-40	1-7	58-72	25-35	1.25-1.45	0.2-0.6	0.16-0.22	3.0-5.9	0.2-0.8	.37	.37			
	40-58	1-7	68-80	18-27	1.30-1.50	0.2-0.6	0.18-0.22	0.0-2.9	0.2-0.8	.49	.49			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			
517A:														
Marine--------------	0-9	1-7	75-85	12-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	9-17	1-7	75-90	8-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	0.1-0.5	.49	.49			
	17-43	1-7	45-64	35-48	1.45-1.70	0.06-0.2	0.11-0.18	6.0-8.9	0.2-0.8	.37	.37			
	43-62	1-7	60-80	15-35	1.45-1.65	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37			
	62-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
517B:														
Marine--------------	0-9	1-7	75-85	12-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	9-17	1-7	75-90	8-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	0.1-0.5	.49	.49			
	17-43	1-7	45-64	35-48	1.45-1.70	0.06-0.2	0.11-0.18	6.0-8.9	0.2-0.8	.37	.37			
	43-62	1-7	60-80	15-35	1.45-1.65	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37			
	62-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
533.														
Urban land														
536.														
Dumps, mine														
581B:														
Tamalco-------------	0-6	1-7	66-75	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.43	.43	3	6	48
	6-9	1-7	68-80	18-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.49	.49			
	9-17	1-7	48-60	35-45	1.35-1.60	0.01-0.06	0.09-0.14	6.0-8.9	0.0-1.0	.37	.37			
	17-42	1-7	58-70	20-35	1.55-1.75	0.06-0.2	0.10-0.15	3.0-5.9	0.0-1.0	.37	.37			
	42-84	15-40	30-60	20-30	1.55-1.75	0.06-0.2	0.10-0.20	0.0-2.9	0.0-1.0	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
581B2:														
Tamalco-------------	0-9	1-7	66-78	20-27	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	9-19	1-7	48-64	35-45	1.35-1.60	0.01-0.06	0.09-0.14	6.0-8.9	0.5-1.0	.37	.37			
	19-39	1-7	60-75	22-35	1.50-1.70	0.06-0.2	0.12-0.18	3.0-5.9	0.2-0.8	.37	.37			
	39-60	5-30	45-70	20-30	1.55-1.75	0.06-0.2	0.12-0.20	0.0-2.9	0.1-0.5	.37	.37			
582B:														
Homen---------------	0-9	1-7	66-80	18-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	6	48
	9-14	1-7	66-80	15-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	14-42	1-7	58-71	28-35	1.40-1.60	0.2-2	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37			
	42-77	1-15	53-70	20-32	1.45-1.65	0.06-0.2	0.10-0.16	3.0-5.9	0.1-0.5	.37	.37			
	77-92	5-30	45-70	20-30	1.45-1.65	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
582C:														
Homen---------------	0-9	1-7	66-80	18-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	6	48
	9-14	1-7	66-80	15-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	14-42	1-7	58-71	28-35	1.40-1.60	0.2-2	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37			
	42-77	1-15	53-70	20-32	1.45-1.65	0.06-0.2	0.10-0.16	3.0-5.9	0.1-0.5	.37	.37			
	77-92	5-30	45-70	20-30	1.45-1.65	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
582C2:														
Homen---------------	0-7	1-7	66-80	18-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	4	6	48
	7-41	1-7	58-71	28-35	1.40-1.60	0.2-2	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37			
	41-77	1-15	53-70	20-32	1.45-1.65	0.06-0.2	0.10-0.16	3.0-5.9	0.1-0.5	.37	.37			
	77-92	5-30	45-70	20-30	1.45-1.65	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
583A:														
Pike----------------	0-6	1-7	70-80	15-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	6-10	1-7	70-80	15-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-0.5	.49	.49			
	10-46	1-7	63-75	24-35	1.30-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.2	.37	.37			
	46-60	15-35	45-65	18-27	1.30-1.60	0.6-2	0.12-0.18	0.0-2.9	0.0-0.2	.37	.37			
	60-80	15-44	26-60	15-30	1.45-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-0.2	.32	.32			
583B:														
Pike----------------	0-5	1-7	70-80	15-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	5-11	1-7	70-80	15-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-0.5	.49	.49			
	11-46	1-7	63-75	24-35	1.30-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.2	.37	.37			
	46-57	15-35	45-65	18-27	1.30-1.60	0.6-2	0.12-0.18	0.0-2.9	0.0-0.2	.37	.37			
	57-99	15-44	26-60	15-30	1.45-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-0.2	.32	.32			
583C2:														
Pike----------------	0-5	1-7	70-80	15-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	5-41	1-7	60-71	24-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	41-51	15-35	45-65	18-27	1.30-1.60	0.6-2	0.12-0.18	0.0-2.9	0.0-0.2	.37	.37			
	51-88	15-44	26-60	15-30	1.45-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-0.2	.32	.32			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
583D2:														
Pike----------------	0-4	2-8	70-80	15-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	4-35	2-8	60-71	24-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	35-46	15-35	45-65	18-27	1.30-1.60	0.6-2	0.12-0.18	0.0-2.9	0.0-0.2	.37	.37			
	46-80	15-44	26-60	15-30	1.45-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-0.2	.32	.32			
680B:														
Campton-------------	0-12	1-7	66-84	15-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	12-50	1-7	58-74	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	50-71	20-40	40-65	15-27	1.30-1.50	0.6-2	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
	71-80	30-50	28-55	15-27	1.55-1.75	0.6-6	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
790A:														
Herrick-------------	0-7	1-7	73-85	12-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	5	56
	7-15	1-7	66-78	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-5.9	3.0-4.0	.28	.28			
	15-35	1-7	51-63	32-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.2-1.0	.37	.37			
	35-70	1-7	55-73	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	70-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
Biddle--------------	0-7	1-7	73-85	12-20	1.15-1.35	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.32	.32	4	5	56
	7-16	1-7	66-78	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-5.9	3.0-4.0	.28	.28			
	16-36	1-7	51-63	35-42	1.25-1.45	0.06-0.2	0.14-0.20	6.0-8.9	0.2-0.8	.37	.37			
	36-76	1-7	55-75	20-38	1.30-1.50	0.06-0.2	0.16-0.22	3.0-5.9	0.2-0.8	.37	.37			
	76-80	5-30	45-70	18-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			
802B:														
Orthents, loamy-----	0-6	30-45	25-48	22-30	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.5-2.0	.43	.43	5	6	48
	6-60	28-45	25-50	22-30	1.70-1.80	0.2-0.6	0.08-0.12	3.0-5.9	0.2-1.0	.43	.43			
802E:														
Orthents, loamy-----	0-6	30-45	25-48	22-30	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.2-2.0	.43	.43	5	6	48
	6-60	30-45	25-50	20-30	1.70-1.80	0.2-0.6	0.08-0.12	3.0-5.9	0.2-1.0	.43	.43			
830:														
Landfills-----------	---	---	---	---	---	---	---	---	---	---	---	2	6	48
835G.														
Earthen dam														
864.														
Pits, quarries														
871B:														
Lenzburg------------	0-5	15-50	23-65	20-27	1.30-1.60	0.6-2	0.17-0.20	0.0-2.9	0.5-2.0	.32	.32	5	6	48
	5-37	15-50	15-65	20-35	1.30-1.60	0.2-0.6	0.15-0.18	3.0-5.9	0.2-1.0	.37	.43			
	37-80	15-50	15-65	20-35	1.40-1.70	0.2-0.6	0.11-0.17	3.0-5.9	0.2-1.0	.32	.43			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
871D:														
Lenzburg------------	0-5	15-50	15-65	20-35	1.30-1.60	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	.32	.32	5	6	48
	5-37	15-50	15-65	20-35	1.30-1.60	0.2-0.6	0.15-0.18	3.0-5.9	0.2-1.0	.37	.43			
	37-80	15-45	20-65	20-35	1.40-1.70	0.2-0.6	0.11-0.20	3.0-5.9	0.2-1.0	.32	.43			
871G:														
Lenzburg------------	0-5	15-50	15-65	20-35	1.30-1.60	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	.32	.32	5	6	48
	5-37	15-50	15-65	20-35	1.30-1.60	0.2-0.6	0.15-0.18	3.0-5.9	0.2-1.0	.37	.43			
	37-80	15-45	20-65	20-35	1.40-1.70	0.2-0.6	0.11-0.17	3.0-5.9	0.2-1.0	.32	.43			
882A:														
Oconee--------------	0-8	1-7	73-85	10-20	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	3	5	56
	8-16	1-7	66-78	18-27	1.30-1.45	0.06-0.2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	16-47	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.8	.37	.37			
	47-65	1-7	58-78	20-35	1.40-1.60	0.06-0.2	0.16-0.21	3.0-5.9	0.2-0.8	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			
Darmstadt-----------	0-8	1-7	72-80	12-27	1.30-1.50	0.06-0.2	0.18-0.24	0.0-2.9	1.0-3.0	.43	.43	3	6	48
	8-11	1-7	72-80	12-27	1.30-1.50	0.06-0.2	0.18-0.24	0.0-2.9	0.1-0.5	.55	.55			
	11-27	1-7	58-70	27-35	1.40-1.65	0.06-0.2	0.09-0.20	3.0-5.9	0.2-0.8	.37	.37			
	27-39	1-7	60-75	20-35	1.40-1.65	0.01-0.06	0.10-0.15	3.0-5.9	0.2-0.8	.37	.37			
	39-62	1-7	65-79	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.5	.49	.49			
	62-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.3	.37	.37			
Coulterville--------	0-7	1-7	70-80	15-27	1.40-1.60	0.2-0.6	0.21-0.24	0.0-2.9	1.0-3.0	.43	.43	3	6	48
	7-15	1-7	60-75	22-35	1.40-1.60	0.06-0.2	0.14-0.24	3.0-5.9	0.2-0.8	.37	.37			
	15-23	1-7	60-75	22-35	1.40-1.60	0.06-0.2	0.14-0.24	3.0-5.9	0.2-0.8	.37	.37			
	23-56	1-7	60-80	15-35	1.45-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.2-0.8	.49	.49			
	56-80	5-30	45-70	15-30	1.40-1.60	0.2-0.6	0.05-0.10	0.0-2.9	0.1-0.5	.37	.37			
882B:														
Oconee--------------	0-8	1-7	73-85	10-20	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.5-3.5	.37	.37	3	5	56
	8-16	1-7	66-80	18-27	1.30-1.45	0.06-0.2	0.20-0.22	0.0-2.9	0.3-0.8	.49	.49			
	16-47	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.16-0.20	6.0-8.9	0.2-0.8	.37	.37			
	47-65	1-7	58-78	20-35	1.40-1.60	0.06-0.2	0.10-0.21	3.0-5.9	0.1-0.5	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.10-0.22	0.0-2.9	0.1-0.3	.37	.37			
Darmstadt-----------	0-11	1-7	72-80	12-27	1.30-1.50	0.06-0.2	0.18-0.24	0.0-2.9	1.0-3.0	.43	.43	3	6	48
	11-21	1-7	58-70	27-35	1.40-1.65	0.06-0.2	0.09-0.20	3.0-5.9	0.2-0.8	.37	.37			
	21-39	1-7	60-75	20-35	1.40-1.65	0.01-0.06	0.09-0.20	3.0-5.9	0.2-0.8	.37	.37			
	39-62	1-7	65-79	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.5	.49	.49			
	62-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.3	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
882B:														
Coulterville--------	0-7	1-7	70-80	15-27	1.40-1.60	0.2-0.6	0.21-0.24	0.0-2.9	1.0-3.0	.43	.43	3	6	48
	7-15	1-7	60-75	22-35	1.40-1.60	0.06-0.2	0.14-0.24	3.0-5.9	0.2-0.8	.37	.37			
	15-68	1-7	60-80	15-35	1.45-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.2-0.8	.49	.49			
	68-80	5-30	45-70	15-30	1.40-1.60	0.2-0.6	0.05-0.10	0.0-2.9	0.1-0.5	.37	.37			
882B2:														
Oconee--------------	0-8	1-7	66-78	12-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.5-3.0	.37	.37	3	6	48
	8-47	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.8	.37	.37			
	47-65	1-7	58-78	20-35	1.40-1.60	0.06-0.2	0.16-0.21	3.0-5.9	0.1-0.5	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
Darmstadt-----------	0-11	1-7	72-80	12-27	1.30-1.50	0.06-0.2	0.18-0.24	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	11-21	1-7	58-70	27-35	1.40-1.65	0.06-0.2	0.09-0.20	3.0-5.9	0.2-0.8	.37	.37			
	21-39	1-7	60-75	20-35	1.40-1.65	0.01-0.06	0.09-0.20	3.0-5.9	0.2-0.8	.37	.37			
	39-62	1-7	65-79	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.5	.49	.49			
	62-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.3	.37	.37			
Coulterville--------	0-7	1-7	70-80	15-27	1.40-1.60	0.2-0.6	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	7-15	1-7	60-75	22-35	1.40-1.60	0.06-0.2	0.14-0.24	3.0-5.9	0.2-0.8	.37	.37			
	15-68	1-7	60-80	15-35	1.45-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.2-0.8	.49	.49			
	68-80	5-30	45-70	15-30	1.40-1.60	0.2-0.6	0.05-0.10	0.0-2.9	0.1-0.5	.37	.37			
885A:														
Virden--------------	0-15	1-7	66-78	20-27	1.20-1.40	0.6-2	0.21-0.24	0.0-2.9	3.0-6.0	.28	.28	5	6	48
	15-74	1-7	51-70	25-42	1.20-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.5-1.5	.37	.37			
	74-80	1-7	65-75	20-32	1.25-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.49	.49			
Fosterburg----------	0-13	1-7	66-78	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	4.0-6.0	.28	.28	4	6	48
	13-20	1-7	58-72	27-35	1.20-1.40	0.6-2	0.21-0.24	3.0-5.9	3.0-6.0	.24	.24			
	20-41	1-7	51-64	35-42	1.25-1.45	0.06-0.2	0.16-0.20	6.0-8.9	1.0-2.0	.37	.37			
	41-71	1-7	56-70	24-40	1.30-1.50	0.06-0.2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37			
	71-80	1-7	66-80	18-27	1.30-1.55	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
894A:														
Herrick-------------	0-7	1-7	73-85	12-20	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	5	56
	7-15	1-7	66-78	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-5.9	3.0-4.0	.28	.28			
	15-35	1-7	51-63	32-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.2-1.0	.37	.37			
	35-70	1-7	55-73	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	70-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
Biddle--------------	0-7	1-7	73-85	12-20	1.15-1.35	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.32	.32	4	5	56
	7-16	1-7	66-78	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-5.9	3.0-4.0	.28	.28			
	16-36	1-7	51-63	35-42	1.25-1.45	0.06-0.2	0.14-0.20	6.0-8.9	0.2-0.8	.37	.37			
	36-76	1-7	55-75	20-38	1.30-1.50	0.06-0.2	0.16-0.22	3.0-5.9	0.2-0.8	.37	.37			
	76-80	5-30	45-70	18-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
894A:														
Piasa---------------	0-8	1-7	73-85	10-20	1.25-1.45	0.2-0.6	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	3	5	56
	8-12	1-7	66-80	18-27	1.30-1.50	0.06-0.2	0.18-0.20	0.0-2.9	0.2-0.8	.49	.49			
	12-37	1-7	50-63	35-43	1.35-1.55	0.01-0.06	0.09-0.10	6.0-8.9	0.2-0.8	.37	.37			
	37-48	2-7	58-75	20-35	1.35-1.55	0.01-0.06	0.09-0.10	0.0-2.9	0.2-0.8	.43	.43			
	48-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.12	0.0-2.9	0.1-0.5	.37	.37			
897C2:														
Bunkum--------------	0-8	0-7	67-82	18-26	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-40	0-7	58-75	25-35	1.25-1.45	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.37	.37			
	40-58	8-25	48-74	18-27	1.30-1.50	0.2-0.6	0.18-0.22	0.0-2.9	0.5-1.0	.37	.37			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.0-0.5	.37	.37			
Atlas---------------	0-9	5-30	50-75	20-27	1.30-1.50	0.2-0.6	0.20-0.25	0.0-2.9	1.0-2.0	.32	.32	3	6	48
	9-31	10-35	20-55	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	31-51	10-35	20-60	30-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	51-80	15-40	20-50	25-45	1.35-1.60	0.06-0.2	0.07-0.18	6.0-8.9	0.0-1.0	.28	.28			
912B2:														
Hoyleton------------	0-7	1-16	57-87	10-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-2.5	.37	.37	3	5	56
	7-30	1-10	45-64	35-47	1.30-1.60	0.06-0.6	0.12-0.16	6.0-8.9	0.2-0.5	.37	.37			
	30-80	4-40	25-75	19-35	1.40-1.60	0.2-0.6	0.15-0.18	0.0-2.9	0.0-0.3	.43	.43			
Darmstadt-----------	0-8	1-7	72-80	12-27	1.30-1.50	0.06-0.2	0.18-0.24	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	8-21	1-7	58-70	27-35	1.40-1.65	0.06-0.2	0.09-0.20	3.0-5.9	0.2-0.8	.37	.37			
	21-39	1-7	60-75	20-35	1.40-1.65	0.01-0.06	0.11-0.20	3.0-5.9	0.2-0.8	.37	.37			
	39-62	1-7	65-79	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.5	.49	.49			
	62-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.3	.37	.37			
991A:														
Cisne---------------	0-8	1-10	70-83	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.5-3.5	.37	.37	3	5	56
	8-17	0-10	70-87	10-20	1.40-1.60	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.64	.64			
	17-37	0-10	50-65	35-45	1.30-1.50	0.02-0.2	0.12-0.18	6.0-8.9	0.2-0.5	.43	.43			
	37-60	15-30	38-61	20-35	1.50-1.70	0.06-0.2	0.11-0.17	3.0-5.9	0.0-0.5	.43	.43			
	60-80	15-35	31-62	20-35	1.50-1.70	0.2-0.6	0.13-0.19	0.0-2.9	0.0-0.3	.43	.43			
Huey----------------	0-8	1-10	70-83	10-20	1.30-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-2.5	.43	.43	2	5	56
	8-10	0-10	70-87	10-20	1.40-1.60	0.2-0.6	0.18-0.24	0.0-2.9	0.3-0.8	.64	.64			
	10-18	1-8	59-71	25-35	1.30-1.50	0.06-0.6	0.13-0.19	3.0-5.9	0.2-0.5	.49	.49			
	18-49	1-8	59-71	25-42	1.30-1.50	0.02-0.06	0.13-0.19	3.0-5.9	0.0-0.3	.49	.49			
	49-65	15-35	31-62	20-35	1.50-1.70	0.02-0.6	0.13-0.19	0.0-2.9	0.0-0.3	.43	.43			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
993A:														
Cowden---------------	0-8	1-7	73-85	10-20	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	3	5	56
	8-19	1-7	68-80	17-27	1.25-1.45	0.06-0.2	0.18-0.20	0.0-2.9	0.1-0.5	.49	.49			
	19-50	1-7	51-63	35-42	1.35-1.60	0.06-0.2	0.12-0.20	6.0-8.9	0.2-0.8	.37	.37			
	50-58	1-7	65-79	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
Piasa---------------	0-8	1-7	73-85	10-20	1.25-1.45	0.2-0.6	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	3	5	56
	8-12	1-7	66-80	18-27	1.30-1.50	0.06-0.2	0.18-0.20	0.0-2.9	0.2-0.8	.49	.49			
	12-37	1-7	50-63	35-43	1.35-1.55	0.01-0.06	0.09-0.10	6.0-8.9	0.2-0.8	.37	.37			
	37-48	2-7	58-75	20-35	1.35-1.55	0.01-0.06	0.09-0.10	0.0-2.9	0.2-0.8	.43	.43			
	48-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.12	0.0-2.9	0.1-0.5	.37	.37			
998F:														
Hickory--------------	0-3	25-45	33-50	12-25	1.30-1.50	0.6-2	0.17-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	3-9	28-45	33-50	12-22	1.30-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.37	.37			
	9-36	15-45	30-50	24-35	1.45-1.65	0.6-2	0.12-0.15	3.0-5.9	0.1-0.5	.28	.32			
	36-53	25-49	28-50	15-32	1.50-1.70	0.6-2	0.12-0.15	0.0-2.9	0.1-0.5	.28	.32			
	53-80	30-55	25-50	15-30	1.50-1.75	0.6-2	0.11-0.15	0.0-2.9	0.1-0.5	.28	.32			
Negley---------------	0-2	25-45	33-50	12-25	1.30-1.50	0.6-2	0.13-0.17	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	2-8	28-45	33-50	12-22	1.30-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.37	.37			
	8-80	40-65	10-30	18-35	1.30-1.60	0.6-6	0.10-0.16	3.0-5.9	0.2-0.6	.28	.32			
3074A:														
Radford--------------	0-12	0-15	58-82	18-27	1.40-1.60	0.6-2	0.17-0.23	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	12-33	0-15	58-82	18-27	1.40-1.60	0.6-2	0.17-0.23	0.0-2.9	0.0-2.0	.49	.49			
	33-80	5-30	35-71	24-35	1.35-1.55	0.6-2	0.15-0.21	0.0-2.9	3.0-6.0	.32	.32			
3107A:														
Sawmill--------------	0-10	3-15	58-70	27-35	1.25-1.45	0.6-2	0.15-0.21	3.0-5.9	4.5-7.0	.28	.28	5	6	48
	10-32	3-15	58-70	27-35	1.25-1.45	0.6-2	0.15-0.21	3.0-5.9	4.5-7.0	.28	.28			
	32-58	5-20	45-68	27-35	1.30-1.50	0.6-2	0.14-0.20	3.0-5.9	1.5-3.5	.32	.32			
	58-65	5-25	40-70	25-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.8-3.5	.32	.32			
3225A:														
Holton---------------	0-10	20-35	50-60	15-25	1.20-1.45	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	10-36	27-71	19-55	10-18	1.25-1.45	0.6-2	0.13-0.17	0.0-2.9	0.5-1.0	.24	.32			
	36-60	45-71	19-45	10-18	1.25-1.45	0.6-2	0.07-0.16	0.0-2.9	0.0-0.2	.32	.32			
3451A:														
Lawson---------------	0-14	0-15	58-90	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	14-33	0-15	55-90	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32	.32			
	33-80	5-40	30-77	18-30	1.55-1.65	0.6-2	0.18-0.20	0.0-2.9	0.0-2.0	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
7242A:														
Kendall-------------	0-9	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-13	0-10	65-82	18-25	1.25-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-1.0	.49	.49			
	13-49	0-10	55-73	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	49-60	20-50	28-55	15-27	1.55-1.70	0.6-2	0.11-0.20	0.0-2.9	0.0-0.5	.32	.32			
7788B:														
Shoals--------------	0-14	25-40	35-50	18-25	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	14-72	15-46	27-61	18-30	1.50-1.70	0.6-2	0.12-0.17	0.0-2.9	0.3-1.0	.32	.32			
	72-88	25-63	18-53	19-30	1.50-1.70	0.6-2	0.12-0.17	3.0-5.9	0.3-1.0	.20	.20			
Terril--------------	0-12	25-40	35-50	15-25	1.35-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	12-81	25-55	27-53	12-35	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	0.0-1.0	.32	.32			
	81-92	25-50	18-53	19-39	1.40-1.45	0.6-2	0.17-0.19	0.0-2.9	0.0-1.0	.32	.32			
8109A:														
Racoon--------------	0-13	1-14	62-84	14-25	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-2.5	.37	.37	5	5	56
	13-33	1-14	62-83	15-25	1.35-1.55	0.2-0.6	0.19-0.23	0.0-2.9	0.3-0.8	.55	.55			
	33-55	1-15	52-71	27-35	1.35-1.55	0.06-0.2	0.14-0.18	3.0-5.9	0.2-0.5	.32	.32			
	55-87	10-19	52-63	27-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.0-0.2	.32	.32			

Table 21.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
2A:						
Cisne----------------	0-8	9.2-17	---	5.1-7.3	0	0-3
	8-17	8.8-16	---	5.1-6.5	0	0-3
	17-37	25-33	18-29	4.5-6.0	0	0-5
	37-60	14-26	---	5.1-6.5	0	0-5
	60-80	14-26	---	5.6-7.3	0	1-13
3A:						
Hoyleton-------------	0-8	11-22	---	4.5-7.3	0	0-3
	8-11	15-21	---	4.5-7.3	0	0-3
	11-39	25-33	18-27	4.5-5.5	0	0-5
	39-80	14-26	---	5.6-7.3	0	1-13
3B:						
Hoyleton-------------	0-8	11-22	---	4.5-7.3	0	0-3
	8-15	15-21	9.3-18	4.5-6.0	0	0-3
	15-34	25-33	18-27	4.5-5.5	0	0-5
	34-60	14-26	---	5.1-6.5	0	1-13
3B2:						
Hoyleton-------------	0-7	11-22	---	4.5-7.3	0	0-3
	7-30	25-33	18-27	4.5-5.5	0	0-5
	30-60	14-26	---	5.1-6.5	0	1-13
5C2:						
Blair----------------	0-5	17-22	---	5.1-7.3	0	0
	5-20	19-27	13-18	4.5-6.0	0	0
	20-71	14-27	---	5.1-7.3	0	0
	71-80	12-26	---	5.6-7.8	0-20	0-3
5C3:						
Blair----------------	0-5	20-28	---	5.1-7.3	0	0
	5-20	19-27	13-18	4.5-6.0	0	0
	20-71	14-27	---	5.1-7.3	0	0
	71-80	12-26	---	5.6-7.8	0-20	0-3
6B2:						
Fishhook-------------	0-7	17-22	---	5.1-7.3	0	0
	7-29	19-27	---	4.5-7.3	0	0
	29-60	23-34	---	4.5-7.8	0-5	0
	60-80	14-34	---	6.1-8.4	0-10	0
6C2:						
Fishhook-------------	0-6	17-22	---	5.1-7.3	0	0
	6-27	19-27	---	4.5-7.3	0	0
	27-58	23-34	---	4.5-7.8	0-5	0
	58-80	14-34	---	6.1-8.4	0-10	0
7C2:						
Atlas----------------	0-7	17-22	---	4.5-7.3	0	0
	7-13	19-28	---	4.5-7.3	0	0
	13-26	24-33	---	4.5-7.3	0	0
	26-61	20-33	---	4.5-7.8	0-5	0
	61-80	18-33	---	6.1-7.8	0-10	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
7C3:						
Atlas----------------	0-4	23-30	---	4.5-7.3	0	0
	4-23	23-33	---	4.5-7.3	0	0
	23-34	21-33	---	4.5-7.8	0-5	0
	34-80	18-33	---	6.1-7.8	0-10	0
7D2:						
Atlas----------------	0-7	17-22	---	4.5-7.3	0	0
	7-13	19-28	---	4.5-7.3	0	0
	13-26	23-33	---	4.5-7.3	0	0
	26-61	21-33	---	4.5-7.8	0-5	0
	61-80	18-33	---	6.1-7.8	0-10	0
8D:						
Hickory--------------	0-4	6.5-14	---	4.5-7.3	0	0
	4-12	7.6-12	---	4.5-7.3	0	0
	12-46	10-18	---	4.5-7.3	0	0
	46-58	7.6-17	---	5.1-8.4	0-15	0
	58-80	7.6-16	---	5.6-8.4	0-25	0
8D2:						
Hickory--------------	0-5	10-14	---	4.5-7.3	0	0
	5-51	14-18	---	4.5-7.3	0	0
	51-80	7.6-17	---	5.1-8.4	0-15	0
8D3:						
Hickory--------------	0-8	14-19	---	4.5-7.3	0	0
	8-46	12-18	---	4.5-6.0	0	0
	46-58	7.8-17	---	5.1-7.3	0	0
	58-80	7.8-16	---	5.6-8.4	0-25	0
8F:						
Hickory--------------	0-4	6.5-14	---	4.5-7.3	0	0-3
	4-12	7.8-12	---	4.5-7.3	0	0-3
	12-46	12-18	---	4.5-6.0	0	0-3
	46-58	7.8-17	---	5.1-7.3	0	0-3
	58-80	7.8-16	---	5.6-8.4	0-25	0-5
8G:						
Hickory--------------	0-4	6.5-14	---	4.5-7.3	0	0
	4-12	7.6-12	---	4.5-7.3	0	0
	12-40	12-18	---	4.5-7.3	0	0
	40-58	7.6-17	---	5.1-7.8	0-15	0
	58-80	7.6-16	---	5.6-8.4	0-25	0
12A:						
Wynoose--------------	0-7	9.1-17	---	5.1-7.3	0	0-3
	7-20	8.8-16	4.2-14	3.5-6.0	0	0-3
	20-36	25-31	14-28	3.5-6.0	0	0-5
	36-66	18-26	10-23	3.5-6.0	0	0-5
	66-80	18-26	---	5.6-7.3	0	1-13
13A:						
Bluford--------------	0-7	9.1-16	---	5.6-7.3	0	0-3
	7-20	12-20	7.8-17	4.5-6.0	0	0-3
	20-35	25-33	18-29	4.5-6.0	0	0-5
	35-60	14-26	10-23	4.5-6.0	0	1-13

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
13B:						
Bluford--------------	0-7	9.1-16	---	5.6-7.3	0	0-3
	7-20	12-20	7.8-17	4.5-6.0	0	0-3
	20-35	25-33	18-29	4.5-6.0	0	0-5
	35-60	14-26	10-23	4.5-6.0	0	1-13
14B:						
Ava------------------	0-6	6.5-11	---	5.1-7.3	0	0
	6-14	6.4-11	3.4-6.8	4.5-5.5	0	0
	14-34	13-18	8.3-14	4.5-5.5	0	0-3
	34-50	10-16	6.8-15	4.5-5.5	0	0-3
	50-60	10-16	6.8-15	4.5-6.0	0	0-5
14C2:						
Ava------------------	0-7	8.0-12	---	5.1-7.3	0	0
	7-31	13-19	7.9-14	4.5-5.5	0	0-3
	31-50	10-16	6.4-12	4.5-5.5	0	0-3
	50-60	10-16	---	4.5-6.0	0	0-5
15C2:						
Parke----------------	0-6	8.0-14	---	5.1-7.3	0	0
	6-25	10-18	6.4-18	4.5-6.0	0	0
	25-29	9.1-14	6.2-13	4.5-6.0	0	0
	29-93	---	5.1-15	4.5-5.5	0	0
15D2:						
Parke----------------	0-6	8.0-14	---	5.1-7.3	0	0
	6-25	10-18	6.4-18	4.5-6.0	0	0
	25-29	9.1-14	6.2-13	4.5-6.0	0	0
	29-93	---	5.1-15	4.5-5.5	0	0
31A:						
Pierron--------------	0-8	11-21	---	4.5-7.3	0	0
	8-20	8.5-18	---	4.5-7.3	0	0
	20-36	---	14-27	3.5-5.5	0	0
	36-66	20-31	---	4.5-6.5	0	0
	66-80	15-23	---	5.1-7.3	0	0
46A:						
Herrick--------------	0-7	11-17	---	5.1-7.3	0	0
	7-15	17-22	---	5.1-7.3	0	0
	15-35	24-31	---	4.5-6.0	0	0
	35-70	19-29	---	5.6-7.3	0	0
	70-80	15-23	---	5.6-7.8	0-10	0
48A:						
Ebbert---------------	0-11	17-23	---	5.1-7.3	0	0
	11-16	14-20	---	5.1-6.0	0	0
	16-52	20-27	---	5.1-7.3	0	0
	52-63	15-21	---	5.6-7.3	0	0
	63-80	20-23	---	5.6-7.8	0-10	0
50A:						
Virden---------------	0-16	22-28	---	5.6-7.8	0	0
	16-49	23-32	---	5.6-7.3	0	0
	49-60	18-25	---	6.1-8.4	0-25	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
112A:						
Cowden---------------	0-8	9.3-17	---	5.6-7.3	0	0
	8-19	13-21	8.8-18	4.5-6.0	0	0
	19-50	26-31	---	4.5-7.3	0	0
	50-58	15-23	---	5.6-7.8	0-10	0
	58-80	15-23	---	5.6-7.8	0-10	0
113A:						
Oconee---------------	0-7	9.3-17	---	5.6-7.3	0	0
	7-15	14-21	---	4.5-7.3	0	0
	15-44	26-31	---	4.5-6.0	0	0
	44-65	16-26	---	5.1-6.5	0	0
	65-80	15-23	---	5.6-7.8	0-10	0
113B:						
Oconee---------------	0-8	9.2-17	---	5.1-7.3	0	0
	8-16	14-21	---	4.5-7.3	0	0
	16-47	26-31	---	4.5-6.0	0	0
	47-65	15-26	---	5.1-6.5	0	0
	65-80	15-23	---	5.6-7.8	0-10	0
113B2:						
Oconee---------------	0-8	11-22	---	5.1-7.3	0	0
	8-35	26-31	---	4.5-6.0	0	0
	35-65	15-26	---	5.1-6.5	0	0
	65-80	15-23	---	5.6-7.8	0-10	0
127A:						
Harrison-------------	0-15	17-23	---	6.1-7.3	0	0
	15-45	19-27	---	5.1-6.5	0	0
	45-67	14-26	---	5.6-7.3	0	0
	67-80	20-36	---	5.1-7.8	0-20	0
127B:						
Harrison-------------	0-10	17-23	---	6.1-7.3	0	0
	10-45	19-27	---	5.1-6.5	0	0
	45-65	14-26	---	5.6-7.3	0	0
	65-80	20-36	---	5.1-7.8	0-20	0
127B2:						
Harrison-------------	0-8	17-23	---	6.1-7.3	0	0
	8-46	19-27	---	5.1-6.5	0	0
	46-65	14-26	---	5.6-7.3	0	0
	65-80	20-36	---	5.1-7.8	0-20	0
127C2:						
Harrison-------------	0-8	17-23	---	6.1-7.3	0	0
	8-45	19-27	---	5.1-6.5	0	0
	45-65	14-26	---	5.6-7.3	0	0
	65-80	20-36	---	5.1-7.8	0-20	0
128B:						
Douglas--------------	0-11	17-23	---	5.6-7.3	0	0
	11-43	17-27	---	5.1-6.5	0	0
	43-80	7.6-18	---	5.6-7.3	0	0
128C2:						
Douglas--------------	0-8	12-23	---	5.6-7.3	0	0
	8-44	17-27	---	5.1-6.5	0	0
	44-80	7.6-18	---	5.6-7.3	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
138+:						
Shiloh, overwash-----	0-10	16-23	---	6.1-7.3	0	0
	10-18	28-33	---	6.1-7.3	0	0
	18-41	26-34	---	6.1-7.8	0	0
	41-80	18-26	---	6.1-7.8	0-10	0
138A:						
Shiloh---------------	0-7	28-32	---	6.1-7.3	0	0
	7-27	28-33	---	6.1-7.3	0	0
	27-52	26-34	---	6.1-7.8	0	0
	52-80	18-26	---	6.1-7.8	0-10	0
256C2:						
Pana-----------------	0-8	6.5-14	---	5.1-7.3	0	0
	8-62	10-18	---	5.1-7.3	0	0
	62-80	2.6-8.0	---	5.1-7.3	0	0
259C2:						
Assumption-----------	0-8	17-23	---	5.6-7.3	0	0
	8-24	17-27	---	5.1-7.3	0	0
	24-60	20-34	---	5.1-7.3	0	0
287A:						
Chauncey-------------	0-13	9.2-17	---	5.6-6.5	0	0
	13-28	8.9-17	5.3-14	4.5-6.0	0	0
	28-66	25-31	---	4.5-6.5	0	0
	66-80	11-19	---	5.6-7.3	0	0
385A:						
Mascoutah------------	0-16	23-30	---	6.1-7.3	0	0
	16-21	23-30	---	6.1-7.3	0	0
	21-58	22-28	---	6.1-7.8	0-10	0
	58-66	16-25	---	6.6-7.8	0-5	0
	66-80	14-24	---	6.6-8.4	0-15	0
470B2:						
Keller---------------	0-6	17-23	---	5.6-7.3	0	0
	6-26	19-27	---	5.1-7.3	0	0
	26-67	20-32	---	5.1-7.3	0	0
	67-80	20-32	---	5.1-7.3	0	0
515C2:						
Bunkum---------------	0-7	15-22	---	5.1-7.3	0	0
	7-50	17-27	---	4.5-6.5	0	0
	50-65	15-22	---	5.1-7.3	0	0
	65-85	11-21	---	5.1-7.3	0	0
515C3:						
Bunkum---------------	0-8	20-28	---	5.1-7.3	0	0
	8-40	19-27	---	4.5-6.5	0	0
	40-58	14-22	---	5.1-7.3	0	0
	58-80	15-23	---	5.1-7.3	0	0
517A:						
Marine---------------	0-9	11-16	---	5.1-7.3	0	0
	9-17	7.0-15	---	4.5-6.5	0	0
	17-43	---	18-29	4.5-5.5	0	0
	43-62	12-26	---	5.1-7.3	0	0
	62-80	15-23	---	5.6-7.8	0-10	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
517B:						
Marine----------------	0-9	11-16	---	5.1-7.3	0	0
	9-17	7.0-15	---	4.5-6.5	0	0
	17-43	---	18-29	4.5-5.5	0	0
	43-62	12-26	---	5.1-7.3	0	0
	62-80	15-23	---	5.6-7.8	0-10	0
533.						
Urban land						
536.						
Dumps, mine						
581B:						
Tamalco---------------	0-6	13-22	---	4.5-7.3	0	0-5
	6-9	13-20	---	4.5-7.3	0	0-10
	9-17	23-33	---	4.5-7.3	0	0-13
	17-42	14-27	---	7.4-9.0	0-5	13-25
	42-84	14-23	---	7.4-9.0	0-5	5-13
581B2:						
Tamalco---------------	0-9	17-22	---	4.5-7.3	0	0-5
	9-19	26-33	---	4.5-7.3	0	0-13
	19-39	17-27	---	7.4-9.0	0-5	13-25
	39-60	15-23	---	7.4-9.0	0-5	5-13
582B:						
Homen-----------------	0-9	15-23	---	5.6-7.3	0	0-1
	9-14	12-21	---	4.5-6.5	0	0-1
	14-42	21-27	---	4.5-6.0	0	0-2
	42-77	15-25	---	4.5-6.0	0	0-2
	77-92	15-23	---	5.1-6.5	0	0-2
582C:						
Homen-----------------	0-9	15-23	---	5.6-7.3	0	0-1
	9-14	12-21	---	4.5-6.5	0	0-1
	14-42	20-27	---	4.5-6.0	0	0-2
	42-77	15-25	---	4.5-6.0	0	0-2
	77-92	15-23	---	5.1-6.5	0	0-2
582C2:						
Homen-----------------	0-7	15-22	---	5.6-7.3	0	0-1
	7-41	20-27	---	4.5-6.0	0	0-2
	41-77	15-25	---	4.5-6.0	0	0-2
	77-92	15-23	---	5.1-6.5	0	0-2
583A:						
Pike------------------	0-6	8.1-15	---	4.5-7.3	0	0
	6-10	7.8-14	---	4.5-7.3	0	0
	10-46	12-18	8.6-18	4.5-6.0	0	0
	46-60	9.1-14	6.2-13	4.5-6.0	0	0
	60-80	7.6-16	5.0-15	4.5-6.0	0	0
583B:						
Pike------------------	0-5	8.1-15	---	4.5-7.3	0	0
	5-11	7.8-14	---	4.5-7.3	0	0
	11-46	12-18	8.6-18	4.5-6.0	0	0
	46-57	9.1-14	6.2-13	4.5-6.0	0	0
	57-99	7.6-16	5.0-15	4.5-6.0	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
583C2:						
Pike	0-5	8.1-15	---	5.1-7.3	0	0
	5-41	12-18	7.9-18	4.5-6.0	0	0
	41-51	9.1-14	6.2-13	4.5-6.0	0	0
	51-88	7.6-16	5.0-15	4.5-6.0	0	0
583D2:						
Pike	0-4	8.1-15	---	5.1-7.3	0	0
	4-35	12-18	7.9-18	4.5-6.0	0	0
	35-46	9.1-14	6.2-13	4.5-6.0	0	0
	46-80	7.6-16	5.0-15	4.5-6.0	0	0
680B:						
Campton	0-12	13-23	---	5.1-7.3	0	0
	12-50	17-27	---	4.5-7.3	0	0
	50-71	11-21	---	5.1-7.8	0-5	0
	71-80	11-21	---	5.1-7.8	0-20	0
790A:						
Herrick	0-7	11-17	---	5.1-7.3	0	0
	7-15	17-22	---	5.1-7.3	0	0
	15-35	24-31	---	4.5-6.0	0	0
	35-70	19-29	---	5.6-7.3	0	0
	70-80	15-23	---	5.6-7.8	0-10	0
Biddle	0-7	11-17	---	5.6-7.3	0	0
	7-16	17-22	---	5.6-7.3	0	0
	16-36	26-31	---	5.6-8.4	0-5	5-12
	36-76	16-29	---	6.1-8.4	0-15	5-10
	76-80	14-23	---	6.6-8.4	0-15	0-10
802B:						
Orthents, loamy	0-6	12-16	---	5.6-7.8	0-10	0
	6-60	12-16	---	5.6-7.8	0-20	0
802E:						
Orthents, loamy	0-6	12-16	---	5.6-7.8	0-10	0
	6-60	10-16	---	5.6-7.8	0-20	0
830.						
Landfills						
835G.						
Earthen dam						
864.						
Pits, quarries						
871B:						
Lenzburg	0-5	11-15	---	6.6-8.4	0-20	0
	5-37	10-19	---	6.6-8.4	0-25	0
	37-80	10-19	---	7.4-8.4	0-25	0
871D:						
Lenzburg	0-5	11-19	---	6.6-8.4	0-20	0
	5-37	10-19	---	6.6-8.4	0-25	0
	37-80	10-19	---	7.4-8.4	0-25	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
871G:						
Lenzburg	0-5	11-19	---	6.6-8.4	0-20	0
	5-37	10-19	---	6.6-8.4	0-25	0
	37-80	10-19	---	7.4-8.4	0-25	0
882A:						
Oconee	0-8	9.3-17	---	5.6-7.3	0	0
	8-16	14-21	---	4.5-7.3	0	0
	16-47	26-31	---	4.5-6.0	0	0
	47-65	16-27	---	5.1-6.5	0	0
	65-80	15-23	---	5.6-7.8	0-10	0
Darmstadt	0-8	10-23	---	5.1-7.3	0	0-5
	8-11	9.6-21	---	5.1-7.3	0	0-5
	11-27	21-27	---	4.5-7.8	0-10	13-21
	27-39	16-27	---	6.6-9.0	0-20	13-25
	39-62	15-23	---	7.4-9.0	0-30	5-20
	62-80	15-23	---	7.4-9.0	0-30	5-13
Coulterville	0-7	13-23	---	5.6-7.3	0	0-5
	7-15	17-27	---	4.5-7.3	0	5-13
	15-23	17-27	---	7.4-8.4	0-10	5-13
	23-56	12-27	---	7.4-8.4	0-10	5-13
	56-80	12-23	---	6.6-8.4	0-20	5-13
882B:						
Oconee	0-8	9.2-17	---	5.6-7.3	0	0
	8-16	14-21	---	4.5-7.3	0	0
	16-47	26-31	---	4.5-6.0	0	0
	47-65	15-26	---	5.1-6.5	0	0
	65-80	15-23	---	5.6-7.8	0-10	0
Darmstadt	0-11	10-23	---	5.1-7.3	0	0-5
	11-21	21-27	---	4.5-7.8	0-10	13-21
	21-39	16-27	---	6.6-9.0	0-20	13-25
	39-62	15-23	---	7.4-9.0	0-30	5-20
	62-80	15-23	---	7.4-9.0	0-30	5-13
Coulterville	0-7	13-23	---	5.6-7.3	0	0-5
	7-15	17-27	---	4.5-7.3	0	5-13
	15-68	12-27	---	7.4-8.4	0-10	5-13
	68-80	12-23	---	6.6-8.4	0-20	5-13
882B2:						
Oconee	0-8	11-22	---	5.6-7.3	0	0
	8-47	26-31	---	4.5-6.0	0	0
	47-65	15-26	---	5.1-6.5	0	0
	65-80	15-23	---	5.6-7.8	0-10	0
Darmstadt	0-11	10-22	---	5.1-7.3	0	0-5
	11-21	21-27	---	4.5-7.8	0-10	13-21
	21-39	16-27	---	6.6-9.0	0-20	13-25
	39-62	15-23	---	7.4-9.0	0-30	5-20
	62-80	15-23	---	7.4-9.0	0-30	5-13
Coulterville	0-7	13-22	---	5.6-7.3	0	0-5
	7-15	17-27	---	4.5-7.3	0	5-13
	15-68	12-27	---	7.4-8.4	0-10	5-13
	68-80	12-23	---	6.6-8.4	0-20	5-13

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
885A:						
Virden---------------	0-15	17-23	---	5.6-7.8	0-10	0
	15-74	20-32	---	5.6-7.8	0-10	0
	74-80	15-24	---	5.6-8.4	0-10	0
Fosterburg-----------	0-13	17-23	---	6.1-7.3	0	0-5
	13-20	22-28	---	6.1-7.3	0	0-5
	20-41	27-32	---	6.1-8.4	0-10	5-13
	41-71	19-30	---	6.1-8.4	0-15	5-10
	71-80	14-21	---	6.6-8.4	0-5	0-10
894A:						
Herrick--------------	0-7	11-17	---	5.1-7.3	0	0
	7-15	17-22	---	5.1-7.3	0	0
	15-35	24-31	---	4.5-6.0	0	0
	35-70	19-29	---	5.6-7.3	0	0
	70-80	15-23	---	5.6-7.8	0-10	0
Biddle---------------	0-7	11-17	---	5.6-7.3	0	0
	7-16	17-22	---	5.6-7.3	0	0
	16-36	26-31	---	5.6-8.4	0-5	5-12
	36-76	16-28	---	6.1-8.4	0-15	5-10
	76-80	14-23	---	6.6-8.4	0-15	0-10
Piasa----------------	0-8	9.3-17	---	5.6-7.3	0	0-5
	8-12	14-21	---	5.6-7.8	0	0-5
	12-37	26-32	---	6.1-9.0	0-10	13-25
	37-48	16-27	---	7.4-9.0	0-10	13-25
	48-80	15-23	---	6.6-8.4	0-30	5-13
897C2:						
Bunkum---------------	0-8	15-22	---	5.1-7.3	0	0
	8-40	20-27	---	4.5-6.5	0	0
	40-58	15-22	---	5.1-7.3	0	0
	58-80	14-23	---	5.1-7.3	0	0
Atlas----------------	0-9	17-22	---	4.5-7.3	0	0
	9-31	23-33	---	4.5-7.3	0	0
	31-51	21-33	---	4.5-7.8	0-10	0
	51-80	18-33	---	6.1-7.8	0-10	0
912B2:						
Hoyleton-------------	0-7	9.1-22	---	4.5-7.3	0	0-1
	7-30	---	18-28	4.5-5.5	0	0-3
	30-80	14-26	---	5.1-7.3	0	0-5
Darmstadt------------	0-8	10-22	---	5.1-7.3	0	0-5
	8-21	21-27	---	4.5-7.8	0-10	13-21
	21-39	16-27	---	6.6-9.0	0-20	15-25
	39-62	15-23	---	7.4-9.0	0-30	5-20
	62-80	15-23	---	7.4-9.0	0-30	5-20
991A:						
Cisne----------------	0-8	9.2-17	---	5.1-7.3	0	0-3
	8-17	8.8-16	---	5.1-6.5	0	0-3
	17-37	25-32	18-29	4.5-6.0	0	0-5
	37-60	14-26	---	5.1-6.5	0	0-5
	60-80	14-26	---	5.6-7.3	0	1-13

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
991A:						
Huey	0-8	8.9-17	---	5.1-7.3	0	0-5
	8-10	8.5-16	---	5.6-7.3	0	0-5
	10-18	19-27	---	6.1-8.4	0-10	0-13
	18-49	17-31	---	7.4-9.0	0-10	13-30
	49-65	14-26	---	6.6-8.4	0-10	4-20
993A:						
Cowden	0-8	9.3-17	---	5.6-7.3	0	0
	8-19	13-21	8.8-18	4.5-6.0	0	0
	19-50	26-31	---	4.5-7.3	0	0
	50-58	15-23	---	5.6-7.8	0-10	0
	58-80	15-23	---	5.6-7.8	0-10	0
Piasa	0-8	9.3-17	---	5.6-7.3	0	0-5
	8-12	14-21	---	5.6-7.8	0	0-5
	12-37	26-32	---	6.1-9.0	0-10	13-25
	37-48	16-27	---	7.4-9.0	0-10	13-25
	48-80	15-23	---	6.6-8.4	0-30	5-13
998F:						
Hickory	0-3	6.5-14	---	4.5-7.3	0	0
	3-9	6.3-12	---	4.5-7.3	0	0
	9-36	12-18	---	4.5-6.0	0	0
	36-53	7.8-17	---	5.1-7.3	0	0
	53-80	7.8-16	---	5.6-8.4	0-25	0
Negley	0-2	6.5-14	---	4.5-7.3	0	0
	2-8	6.3-12	---	4.5-6.5	0	0
	8-80	9.4-18	---	4.5-6.0	0	0
3074A:						
Radford	0-12	16-23	---	5.6-7.8	0-5	0
	12-33	13-22	---	6.1-7.8	0-5	0
	33-80	13-19	---	6.1-7.8	0-5	0
3107A:						
Sawmill	0-10	23-30	---	6.1-7.8	0	0
	10-32	23-30	---	6.1-7.8	0	0
	32-58	22-29	---	6.1-7.8	0	0
	58-65	20-29	---	6.1-7.8	0-5	0
3225A:						
Holton	0-10	8.1-14	---	5.6-7.3	0	0
	10-36	5.4-9.7	---	5.6-7.3	0	0
	36-60	5.1-9.4	---	5.6-7.3	0	0
3451A:						
Lawson	0-14	9.1-23	---	6.1-7.8	0-5	0
	14-33	9.1-25	---	6.1-7.8	0-5	0
	33-80	13-25	---	6.1-7.8	0-5	0
7242A:						
Kendall	0-9	17-23	---	5.1-7.3	0	0
	9-13	14-20	---	5.1-7.3	0	0
	13-49	19-27	---	4.5-7.3	0	0
	49-60	11-21	---	5.6-7.3	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	
7788B:						
Shoals---------------	0-14	15-21	---	5.6-7.3	0	0
	14-72	14-24	---	6.0-7.8	0-5	0
	72-88	15-24	---	6.6-7.8	0-5	0
Terril---------------	0-12	13-21	---	5.1-7.3	0	0
	12-81	8.9-27	---	6.1-7.3	0	0
	81-92	14-30	---	7.4-7.8	0	0
8109A:						
Racoon---------------	0-13	12-21	---	4.5-7.3	0	0
	13-33	12-20	7.9-14	4.5-7.3	0	0
	33-55	---	13-20	4.5-5.5	0	0
	55-87	19-26	---	5.6-7.3	0	0

Table 22.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
2A:										
Cisne	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
3A:										
Hoyleton	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
3B:										
Hoyleton	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
3B2:										
Hoyleton	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
5C2:										
Blair	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
5C3:										
Blair	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
6B2:										
Fishhook	D	Jan-May	1.0-2.0	1.5-3.3	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
6C2:										
Fishhook	D	Jan-May	1.0-2.0	1.5-3.3	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
7C2:										
Atlas	D	Jan-May	0.5-1.5	1.0-2.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
7C3:										
Atlas	D	Jan-May	0.5-1.5	1.0-2.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
7D2:										
Atlas	D	Jan-May	0.5-1.5	1.0-2.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
8D:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
8D2:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
8D3:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
8F:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
8G:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
12A:										
Wynoose	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
13A:										
Bluford	C	Jan-May	0.5-2.0	2.5-4.6	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
13B:										
Bluford	C	Jan-May	0.5-2.0	2.5-4.6	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
14B:										
Ava	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.5-3.0	2.1-3.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
14C2:										
Ava	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.5-3.0	2.1-3.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
15C2:										
Parke	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
15D2:										
Parke	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
31A:										
Pierron	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
46A:										
Herrick	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
48A:										
Ebbert	C/D	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	None
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
50A:										
Virden	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
112A:										
Cowden	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
113A:										
Oconee	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
113B:										
Oconee	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
113B2:										
Oconee	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
127A:										
Harrison	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
127B:										
Harrison	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
127B2:										
Harrison	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
127C2:										
Harrison	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
128B:										
Douglas	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
128C2:										
Douglas	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
138+:										
Shiloh, overwash	B/D	Jan-May	0.0-1.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
138A:										
Shiloh	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
256C2:										
Pana	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
259C2:										
Assumption	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.8-4.5	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
287A:										
Chauncey	C/D	Jan-May	0.0-1.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
385A:										
Mascoutah	B	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
470B2:										
Keller	C	Jan-May	1.0-2.0	1.5-3.3	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
515C2:										
Bunkum	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
515C3:										
Bunkum	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
517A:										
Marine	C	Jan-May	0.5-2.0	1.5-3.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
517B:										
Marine	C	Jan-May	0.5-2.0	1.5-3.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
533.										
Urban land										
536.										
Dumps, mine										
581B:										
Tamalco	D	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.4-3.0	2.0-4.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
581B2:										
Tamalco	D	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	1.4-3.0	2.0-4.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
582B:										
Homen	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-6.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
582C:										
Homen	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-6.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
582C2:										
Homen	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-6.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
583A:										
Pike	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
583B:										
Pike	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
583C2:										
Pike	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
583D2:										
Pike	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
680B:										
Campton	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
790A:										
Herrick	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Biddle	C	Jan-May	1.0-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
802B:										
Orthents, loamy-------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
802E:										
Orthents, loamy-------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
830:										
Landfills-------------	C	---	---	---	---	---	---	None	---	None
835G.										
Earthen dam										
864.										
Pits, quarries										
871B:										
Lenzburg--------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
871D:										
Lenzburg--------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
871G:										
Lenzburg--------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
882A:										
Oconee----------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Darmstadt-------------	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Coulterville----------	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
882B:										
Oconee----------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Darmstadt-------------	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Coulterville----------	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
882B2:										
Oconee----------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Darmstadt-------------	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Coulterville----------	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
885A:										
Virden----------------	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
Fosterburg------------	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
894A:										
Herrick	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Biddle	C	Jan-May	1.0-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Piasa	D	Jan-May	0.0-1.0	2.5-4.0	Perched	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
897C2:										
Bunkum	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Atlas	D	Jan-May	0.5-1.5	1.0-2.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
912B2:										
Hoyleton	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Darmstadt	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
991A:										
Cisne	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Huey	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
993A:										
Cowden	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
Piasa	D	Jan-May	0.0-1.0	2.5-4.0	Perched	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
998F:										
Hickory	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Negley	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
3074A:										
Radford	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3107A:										
Sawmill	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3225A:										
Holton	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
3451A:										
Lawson----------------	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
7242A:										
Kendall---------------	B	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	Rare
		Jun	>6.0	>6.0	---	---	---	None	---	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	---	Rare
7788B:										
Shoals----------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	Rare
		Jun	>6.0	>6.0	---	---	---	None	---	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	---	Rare
Terril----------------	B	Jan	>6.0	>6.0	---	---	---	None	---	Rare
		Feb-Apr	4.0-6.0	>6.0	Apparent	---	---	None	---	Rare
		May-Jun	>6.0	>6.0	---	---	---	None	---	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	None	---	Rare
8109A:										
Racoon----------------	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Occasional

Table 23.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
2A:							
Cisne	Abrupt textural change	16-21	---	---	High	High	High
3A:							
Hoyleton	---	---	---	---	High	High	High
3B:							
Hoyleton	---	---	---	---	High	High	High
3B2:							
Hoyleton	---	---	---	---	High	High	High
5C2:							
Blair	---	---	---	---	High	High	Moderate
5C3:							
Blair	---	---	---	---	High	High	Moderate
6B2:							
Fishhook	---	---	---	---	High	High	High
6C2:							
Fishhook	---	---	---	---	High	High	High
7C2:							
Atlas	---	---	---	---	High	High	High
7C3:							
Atlas	---	---	---	---	High	High	High
7D2:							
Atlas	---	---	---	---	High	High	High
8D:							
Hickory	---	---	---	---	Moderate	Moderate	High
8D2:							
Hickory	---	---	---	---	Moderate	Moderate	High
8D3:							
Hickory	---	---	---	---	Moderate	Moderate	High
8F:							
Hickory	---	---	---	---	Moderate	Moderate	High
8G:							
Hickory	---	---	---	---	Moderate	Moderate	High
12A:							
Wynoose	Abrupt textural change	13-30	---	---	High	High	High
13A:							
Bluford	Fragipan	30-55	6-30	Noncemented	High	High	High
13B:							
Bluford	Fragipan	30-55	6-30	Noncemented	High	High	High

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
14B:							
Ava	Fragipan	25-40	10-33	Noncemented	High	High	High
14C2:							
Ava	Fragipan	25-40	10-33	Noncemented	High	High	High
15C2:							
Parke	---	---	---	---	High	Moderate	High
15D2:							
Parke	---	---	---	---	High	Moderate	High
31A:							
Pierron	Abrupt textural change	14-24	---	---	High	High	High
46A:							
Herrick	---	---	---	---	High	High	High
48A:							
Ebbert	---	---	---	---	High	High	Moderate
50A:							
Virden	---	---	---	---	High	High	Moderate
112A:							
Cowden	Abrupt textural change	12-24	---	---	High	High	High
113A:							
Oconee	---	---	---	---	High	High	High
113B:							
Oconee	---	---	---	---	High	High	High
113B2:							
Oconee	---	---	---	---	High	High	High
127A:							
Harrison	---	---	---	---	High	High	Moderate
127B:							
Harrison	---	---	---	---	High	High	Moderate
127B2:							
Harrison	---	---	---	---	High	High	Moderate
127C2:							
Harrison	---	---	---	---	High	High	Moderate
128B:							
Douglas	---	---	---	---	High	Moderate	Moderate
128C2:							
Douglas	---	---	---	---	High	Moderate	Moderate
138+:							
Shiloh, overwash	---	---	---	---	High	High	Low
138A:							
Shiloh	---	---	---	---	High	High	Low

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
256C2:							
Pana	---	---	---	---	Moderate	Moderate	Moderate
259C2:							
Assumption	---	---	---	---	High	High	Moderate
287A:							
Chauncey	Abrupt textural change	24-36	---	---	High	High	High
385A:							
Mascoutah	---	---	---	---	High	High	Low
470B2:							
Keller	---	---	---	---	High	High	Moderate
515C2:							
Bunkum	---	---	---	---	High	High	High
515C3:							
Bunkum	---	---	---	---	High	High	High
517A:							
Marine	Abrupt textural change	12-23	---	---	High	High	High
517B:							
Marine	Abrupt textural change	12-23	---	---	High	High	High
533.							
Urban land							
536.							
Dumps, mine							
581B:							
Tamalco	Natric horizon	12-24	---	---	Moderate	High	High
581B2:							
Tamalco	Natric horizon	12-24	---	---	Moderate	High	High
582B:							
Homen	Fragipan	40-60	20-40	Noncemented	High	High	High
582C:							
Homen	Fragipan	40-60	20-40	Noncemented	High	High	High
582C2:							
Homen	Fragipan	40-60	20-40	Noncemented	High	High	High
583A:							
Pike	---	---	---	---	High	Moderate	High
583B:							
Pike	---	---	---	---	High	Moderate	High
583C2:							
Pike	---	---	---	---	High	Moderate	High
583D2:							
Pike	---	---	---	---	High	Moderate	High

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Depth to top (In)	Thickness (In)	Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Concrete
680B:							
Campton	---	---	---	---	High	High	High
790A:							
Herrick	---	---	---	---	High	High	High
Biddle	---	---	---	---	High	High	Moderate
802B:							
Orthents, loamy	---	---	---	---	Moderate	Low	Moderate
802E:							
Orthents, loamy	---	---	---	---	Moderate	Low	Moderate
830.							
Landfills							
835G.							
Earthen dam							
864.							
Pits, quarries							
871B:							
Lenzburg	---	---	---	---	Moderate	Moderate	Low
871D:							
Lenzburg	---	---	---	---	Moderate	Moderate	Low
871G:							
Lenzburg	---	---	---	---	Moderate	Moderate	Low
882A:							
Oconee	---	---	---	---	High	High	High
Darmstadt	Natric horizon	8-19	---	---	High	High	High
Coulterville	---	---	---	---	High	High	Moderate
882B:							
Oconee	---	---	---	---	High	High	High
Darmstadt	Natric horizon	8-19	---	---	High	High	High
Coulterville	---	---	---	---	High	High	Moderate
882B2:							
Oconee	---	---	---	---	High	High	High
Darmstadt	Natric horizon	8-19	---	---	High	High	High
Coulterville	---	---	---	---	High	High	Moderate
885A:							
Virden	---	---	---	---	High	High	Moderate
Fosterburg	---	---	---	---	High	High	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
894A:							
Herrick	---	---	---	---	High	High	High
Biddle	---	---	---	---	High	High	Moderate
Piasa	Natric horizon	9-17	---	---	High	High	High
897C2:							
Bunkum	---	---	---	---	High	High	High
Atlas	---	---	---	---	High	High	High
912B2:							
Hoyleton	---	---	---	---	High	High	High
Darmstadt	Natric horizon	8-19	---	---	High	High	High
991A:							
Cisne	Abrupt textural change	16-21	---	---	High	High	High
Huey	Natric horizon	8-16	16-52	---	High	High	High
993A:							
Cowden	Abrupt textural change	12-24	---	---	High	High	High
Piasa	Natric horizon	9-17	---	---	High	High	High
998F:							
Hickory	---	---	---	---	Moderate	Moderate	High
Negley	---	---	---	---	Moderate	Moderate	High
3074A:							
Radford	---	---	---	---	High	High	Low
3107A:							
Sawmill	---	---	---	---	High	High	Low
3225A:							
Holton	---	---	---	---	High	High	Moderate
3451A:							
Lawson	---	---	---	---	High	High	Low
7242A:							
Kendall	---	---	---	---	High	High	High
7788B:							
Shoals	---	---	---	---	High	High	Moderate
Terril	---	---	---	---	Moderate	Low	Low
8109A:							
Racoon	---	---	---	---	High	High	High

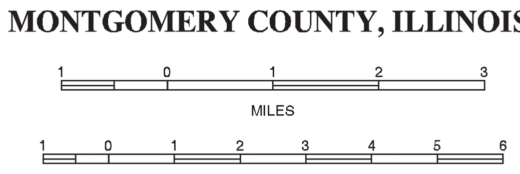
NRCS Accessibility Statement

The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.

INDEX TO MAP SHEETS
MONTGOMERY COUNTY, ILLINOIS

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



SCALE = 1:110000

SOIL LEGEND

Map unit symbols consist of a combination of numbers and letters. The initial numbers represent the kind of soil or miscellaneous area. An uppercase letter following these numbers indicates the class of slope. A final number of 2 following the slope class letter indicates that the soil is moderately eroded, and a final number of 3 indicates that the soil is severely eroded. Symbols that do not have a final number of 2 or 3 following a slope class letter indicate map units that are not eroded or are only slightly eroded. Symbols for miscellaneous areas do not have a slope class letter. A plus sign (+) indicates an overwash phase.

SYMBOL	NAME
2A	Cisne silt loam, 0 to 2 percent slopes
3A	Hoyleton silt loam, 0 to 2 percent slopes
3B	Hoyleton silt loam, 2 to 5 percent slopes
3B2	Hoyleton silt loam, 2 to 5 percent slopes, eroded
5C2	Blair silt loam, 5 to 10 percent slopes, eroded
5C3	Blair silty clay loam, 5 to 10 percent slopes, severely eroded
6B2	Fishhook silt loam, 2 to 5 percent slopes, eroded
6C2	Fishhook silt loam, 5 to 10 percent slopes, eroded
7C2	Atlas silt loam, 5 to 10 percent slopes, eroded
7C3	Atlas silty clay loam, 5 to 10 percent slopes, severely eroded
7D2	Atlas silt loam, 10 to 18 percent slopes, eroded
8D	Hickory silt loam, 10 to 18 percent slopes
8D2	Hickory loam, 10 to 18 percent slopes, eroded
8D3	Hickory clay loam, 10 to 18 percent slopes, severely eroded
8F	Hickory silt loam, 18 to 35 percent slopes
8G	Hickory silt loam, 35 to 60 percent slopes
12A	Wynoose silt loam, 0 to 2 percent slopes
13A	Bluford silt loam, 0 to 2 percent slopes
13B	Bluford silt loam, 2 to 5 percent slopes
14B	Ava silt loam, 2 to 5 percent slopes
14C2	Ava silt loam, 5 to 10 percent slopes, eroded
15C2	Parke silt loam, 5 to 10 percent slopes, eroded
15D2	Parke silt loam, 10 to 18 percent slopes, eroded
31A	Pierron silt loam, 0 to 2 percent slopes
46A	Herrick silt loam, 0 to 2 percent slopes
48A	Ebbert silt loam, 0 to 2 percent slopes
50A	Virden silty clay loam, 0 to 2 percent slopes
112A	Cowden silt loam, 0 to 2 percent slopes
113A	Oconee silt loam, 0 to 2 percent slopes
113B	Oconee silt loam, 2 to 5 percent slopes
113B2	Oconee silt loam, 2 to 5 percent slopes, eroded
127A	Harrison silt loam, 0 to 2 percent slopes
127B	Harrison silt loam, 2 to 5 percent slopes
127B2	Harrison silt loam, 2 to 5 percent slopes, eroded
127C2	Harrison silt loam, 5 to 10 percent slopes, eroded
128B	Douglas silt loam, 2 to 5 percent slopes
128C2	Douglas silt loam, 5 to 10 percent slopes, eroded
138+	Shiloh silt loam, 0 to 2 percent slopes, overwash
138A	Shiloh silty clay loam, 0 to 2 percent slopes
256C2	Pana loam, 5 to 10 percent slopes, eroded
259C2	Assumption silt loam, 5 to 10 percent slopes, eroded
287A	Chauncey silt loam, 0 to 2 percent slopes
385A	Mascoutah silty clay loam, 0 to 2 percent slopes
470B2	Keller silt loam, 2 to 5 percent slopes, eroded

SYMBOL	NAME
515C2	Bunkum silt loam, 5 to 10 percent slopes, eroded
515C3	Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded
517A	Marine silt loam, 0 to 2 percent slopes
517B	Marine silt loam, 2 to 5 percent slopes
533	Urban land
536	Dumps, mine
581B	Tamalco silt loam, 2 to 5 percent slopes
581B2	Tamalco silt loam, 2 to 5 percent slopes, eroded
582B	Homen silt loam, 2 to 5 percent slopes
582C	Homen silt loam, 5 to 10 percent slopes
582C2	Homen silt loam, 5 to 10 percent slopes, eroded
583A	Pike silt loam, 0 to 2 percent slopes
583B	Pike silt loam, 2 to 5 percent slopes
583C2	Pike silt loam, 5 to 10 percent slopes, eroded
583D2	Pike silt loam, 10 to 18 percent slopes, eroded
680B	Campton silt loam, 2 to 5 percent slopes
790A	Herrick-Biddle silt loams, 0 to 2 percent slopes
802B	Orthents, loamy, undulating
802E	Orthents, loamy, hilly
830	Landfills
835G	Earthen dam
864	Pits, quarries
871B	Lenzburg silt loam, 1 to 7 percent slopes
871D	Lenzburg silty clay loam, 7 to 20 percent slopes
871G	Lenzburg silty clay loam, 20 to 60 percent slopes
882A	Oconee-Darmstadt-Coulterville silt loams, 0 to 2 percent slopes
882B	Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes
882B2	Oconee-Darmstadt-Coulterville silt loams, 2 to 5 percent slopes, eroded
885A	Virden-Fosterburg silt loams, 0 to 2 percent slopes
894A	Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes
897C2	Bunkum-Atlas silt loams, 5 to 10 percent slopes, eroded
912B2	Hoyleton-Darmstadt silt loams, 2 to 5 percent slopes, eroded
991A	Cisne-Huey silt loams, 0 to 2 percent slopes
993A	Cowden-Piasa silt loams, 0 to 2 percent slopes
998F	Hickory and Negley loams, 18 to 35 percent slopes
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded
3225A	Holton silt loam, 0 to 2 percent slopes, frequently flooded
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded
7242A	Kendall silt loam, 0 to 2 percent slopes, rarely flooded
7788B	Shoals and Terril loams, 1 to 4 percent slopes, rarely flooded
8109A	Racoon silt loam, 0 to 2 percent slopes, occasionally flooded
M-W	Miscellaneous water
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES
- National, state, or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park)
- Land grant
- Limit of soil survey (label) and/or denied access area
- Field sheet matchline & neatline
- Previously Published Survey

OTHER BOUNDARY (label)
- Airport, airfield
- Cemetery
- City/county park

STATE COORDINATE TICK
1 890 000 FEET

LAND DIVISION CORNER (section and land grants)

GEOGRAPHIC COORDINATE TICK

TRANSPORTATION
- Divided roads
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS
- Interstate — 173, 79 345
- Federal — 287, 410 224
- State — 52, 52 347
- County, farm or ranch — 1283

RAILROAD

POWER TRANSMISSION LINE

PIPELINE

FENCE

LEVEES
- Without road
- With road
- With railroad
- Single side slope (showing actual feature location)

DAMS
- Medium or Small

LANDFORM FEATURES
- Prominent hill or peak
- Soil Sample Site

MISCELLANEOUS CULTURAL FEATURES
- Farmstead, house (omit in urban areas)
- Church
- School
- Other Religion (label) — Mt Carmel
- Located object (label) — Ranger Station
- Tank (label) — Petroleum
- Lookout Tower
- Oil and/or Natural Gas Wells
- Windmill
- Lighthouse

HYDROGRAPHIC FEATURES

STREAMS
- Perennial, double line
- Perennial, single line — Label only
- Intermittent — Label only
- Drainage end — Label only

DRAINAGE AND IRRIGATION
- Double-line canal (label) — CANAL
- Perennial drainage and/or irrigation ditch — Label only
- Intermittent drainage and/ or irrigation ditch — Label only

SMALL LAKES, PONDS AND RESERVOIRS
- Perennial water
- Miscellaneous water
- Flood pool line — FLOOD POOL LINE

MISCELLANEOUS WATER FEATURES
- Spring
- Well, artesian
- Well, irrigation

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS — 43A 136A

LANDFORM FEATURES

ESCARPMENTS
- Bedrock
- Other than bedrock
- Short steep slope
- Gully
- Depression, closed
- Sinkhole

EXCAVATIONS

PITS
- Borrow pits
- Gravel pit
- Mine or quarry
- Landfill

MISCELLANEOUS SURFACE FEATURES
- Blowout
- Clay spot
- Gravelly spot
- Lava flow
- Marsh or swamp
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip
- Sodic spot
- Spoil area
- Stony spot
- Very stony spot
- Wet spot

Descriptions of Special Features

Name	Description	Label
Blowout	A small saucer-, cup-, or trough-shaped hollow or depression formed by wind erosion on a preexisting sand deposit. Typically 0.2 acre to 2.0 acres.	BLO
Borrow pit	An open excavation from which soil and underlying material have been removed, usually for construction purposes. Typically 0.2 acre to 2.0 acres.	BPI
Calcareous spot	An area in which the soil contains carbonates in the surface layer. The surface layer of the named soils in the surrounding map unit is noncalcareous. Typically 0.5 acre to 2.0 acres.	CSP
Clay spot	A spot where the surface layer is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser. Typically 0.2 acre to 2.0 acres.	CLA
Depression, closed	A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage. Typically 0.2 acre to 2.0 acres.	DEP
Disturbed soil spot	An area in which the soil has been removed and materials redeposited as a result of human activity. Typically 0.25 acre to 2.0 acres.	DSS
Dumps	Areas of nonsoil material that support little or no vegetation. Typically 0.5 acre to 2.0 acres.	DMP
Escarpment, bedrock	A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.	ESB
Escarpment, nonbedrock	A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.	ESO
Glacial till spot	An exposure of glacial till at the surface of the earth. Typically 0.25 acre to 2.0 acres.	GLA
Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically 0.2 acre to 2.0 acres.	GPI
Gravelly spot	A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments. Typically 0.2 acre to 2.0 acres.	GRA

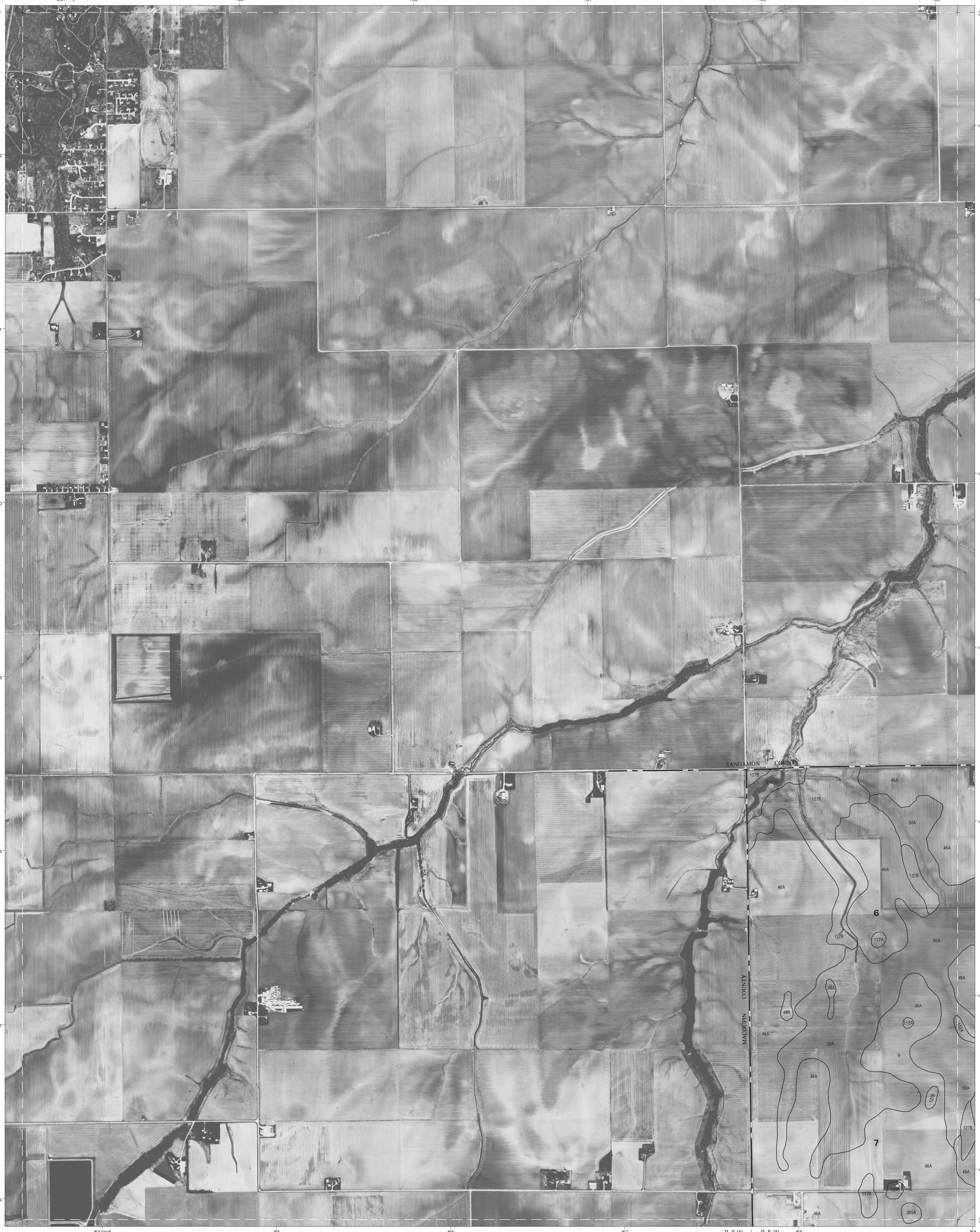
Name	Description	Label
Gray spot	A spot in which the surface layer is gray in areas where the subsurface layer of the named soils in the surrounding map unit are darker. Typically 0.25 acre to 2.0 acres.	GSP
Gully	A small channel with steep sides cut by running water through which water ordinarily runs only after a rain or after melting of snow or ice. It generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage.	GUL
Iron bog	An accumulation of iron in the form of nodules, concretions, or soft masses on the surface or near the surface of soils. Typically 0.2 acre to 2.0 acres.	BFE
Landfill	An area of accumulated waste products of human habitation, either above or below natural ground level. Typically 0.2 acre to 2.0 acres.	LDF
Levee	An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.	LVS
Marsh or swamp	A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Typically 0.2 acre to 2.0 acres.	MAR
Mine or quarry	An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines. Typically 0.2 acre to 2.0 acres.	MPI
Mine subsided area	An area that is lower than the soils in the surrounding map unit because of subsurface coal mining. Typically 0.25 acre to 3.0 acres.	MSA
Miscellaneous water	A small, constructed body of water that is used for industrial, sanitary, or mining applications and that contains water most of the year. Typically 0.2 acre to 2.0 acres.	MIS
Muck spot	An area that occurs within an area of poorly drained or very poorly drained soil and that has a histic epipedon or an organic surface layer. The symbol is used only in map units consisting of mineral soil. Typically 0.2 acre to 2.0 acres.	MUC
Oil brine spot	An area of soil that has been severely damaged by the accumulation of oil brine, with or without liquid oily wastes. The area is typically barren but may have a vegetative cover of salt-tolerant plants. Typically 0.2 acre to 2.0 acres.	OBS
Perennial water	A small, natural or constructed lake, pond, or pit that contains water most of the year. Typically 0.2 acre to 2.0 acres.	WAT

Name	Description	Label
Rock outcrop	An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where "Rock outcrop" is a named component of the map unit. Typically 0.2 acre to 2.0 acres.	ROC
Saline spot	An area where the surface layer has an electrical conductivity of 8 mmhos/cm-l more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm-l or less. Typically 0.2 acre to 2.0 acres.	SAL
Sandy spot	A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer. Typically 0.2 acre to 2.0 acres.	SAN
Severely eroded spot	An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which "severely eroded," "very severely eroded," or "gullied" is part of the map unit name. Typically 0.2 acre to 2.0 acres.	ERO
Short steep slope	A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.	SLP
Sinkhole	A closed depression formed either by solution of the surficial rock or by collapse of underlying caves. Typically 0.2 acre to 2.0 acres.	SNK
Slide or slip	A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces. Typically 0.2 acre to 2.0 acres.	SLI
Sodic spot	An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less. Typically 0.2 acre to 2.0 acres.	SOD
Spoil area	A pile of earthy materials, either smoothed or uneven, resulting from human activity. Typically 0.2 acre to 2.0 acres.	SPO
Stony spot	A spot where 0.01 to 0.1 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones. Typically 0.2 acre to 2.0 acres.	STN
Unclassified water	A small, natural or manmade lake, pond, or pit that contains water, of an unspecified nature, most of the year. Typically 0.2 acre to 2.0 acres.	UWT

Name	Description	Label
Very stony spot	A spot where 0.1 to 3.0 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surface cover of the surrounding soil is less than 0.01 percent stones. Typically 0.2 acre to 2.0 acres.	STV
Wet depression	A shallow, concave area within an area of poorly drained or very poorly drained soils in which water is ponded for intermittent periods. The concave area is saturated for appreciably longer periods of time than the surrounding soil. Typically 0.2 acre to 2.0 acres.	WDP
Wet spot	A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit. Typically 0.2 acres to 2.0 acres.	WET

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
DIVERNON SW QUADRANGLE
SHEET NUMBER 1 OF 66



SCALE 1:12000

MILES

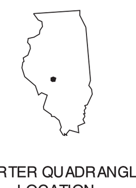
FEET

KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

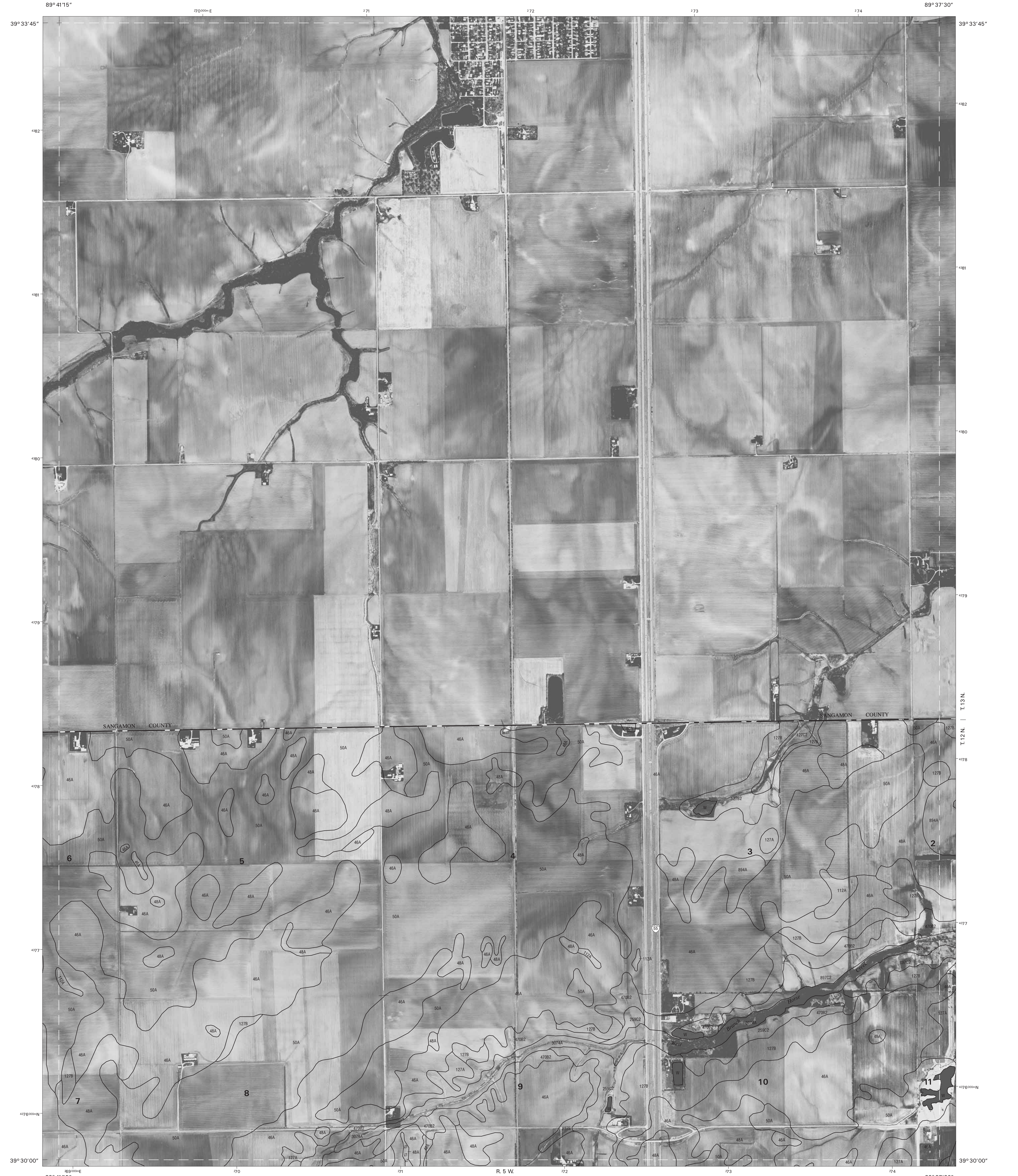
2 DIVERNON SE
5 FARMERSVILLE NW
6 FARMERSVILLE NE

INDEX TO ADJOINING 3.75 MAPS

DIVERNON SW, ILLINOIS

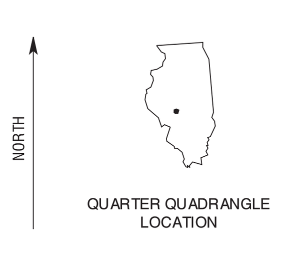
3.75 MINUTE SERIES
SHEET NUMBER 1 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

1		3
5	6	7

1 DIVERNON SW
3 PAWNEE SW
5 FARMERSVILLE NW
6 FARMERSVILLE NE
7 RAYMOND NE NW

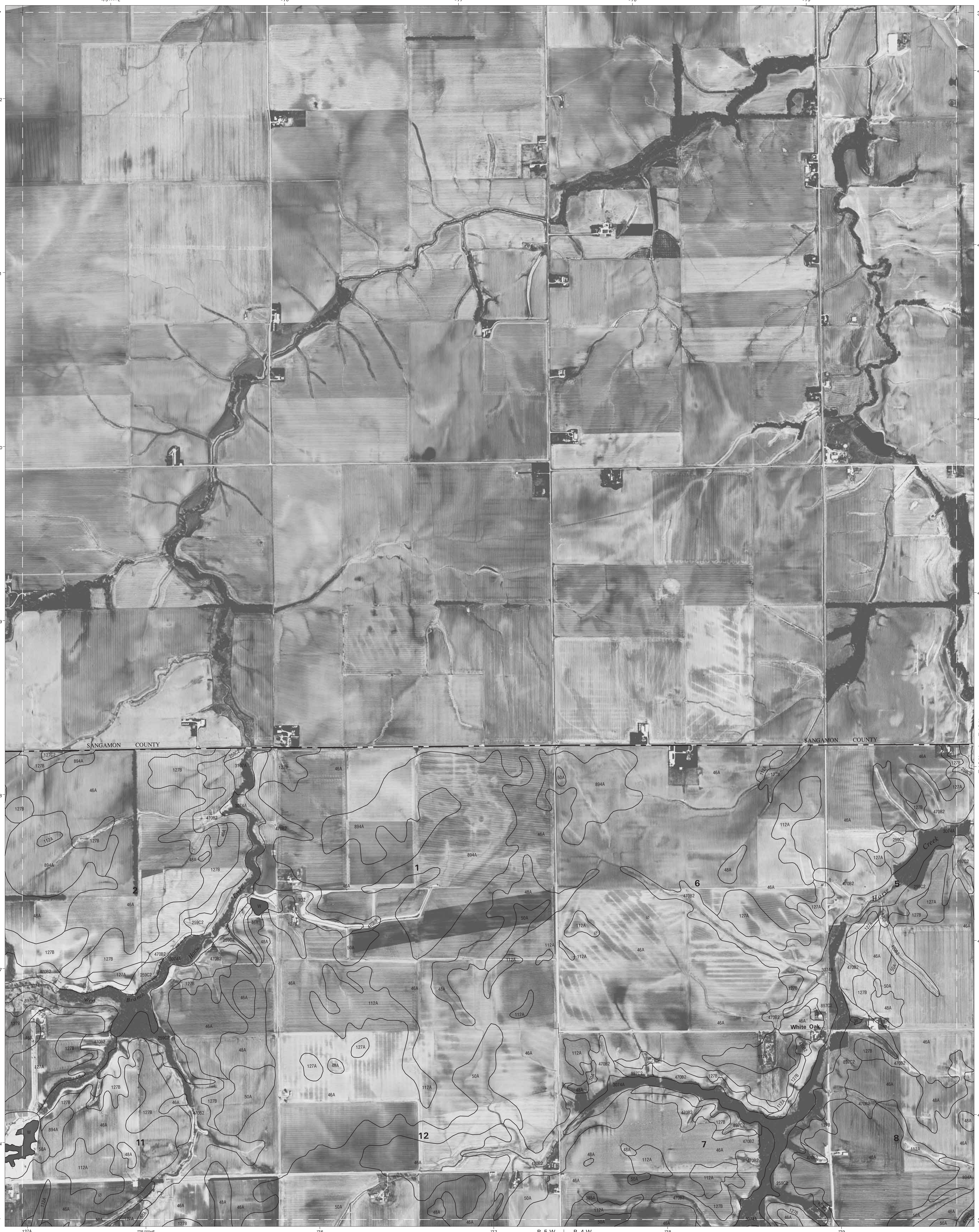
INDEX TO ADJOINING 3.75 MAPS

DIVERNON SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 2 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

89° 37′30″ — 89° 33′45″ — 39° 33′45″ — 39° 30′00″



R. 5 W. | R. 4 W.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 — 0 — 0.5

FEET: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS: 0.5 — 0 — 0.5

2	■	4
6	7	8

2 DIVERNON SE
4 PAWNEE SE
6 FARMERSVILLE NE
7 RAYMOND NE NW
8 RAYMOND NE NE

INDEX TO ADJOINING 3.75 MAPS

PAWNEE SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 3 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

89° 33′45″ 89° 30′00″

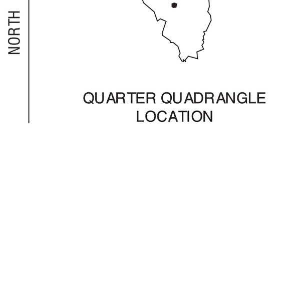
39° 33′45″ 39° 33′45″

39° 30′00″ 39° 30′00″

89° 33′45″ R. 4 W. 89° 30′00″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



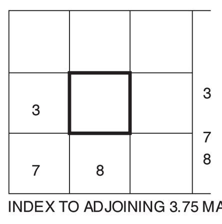
QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS



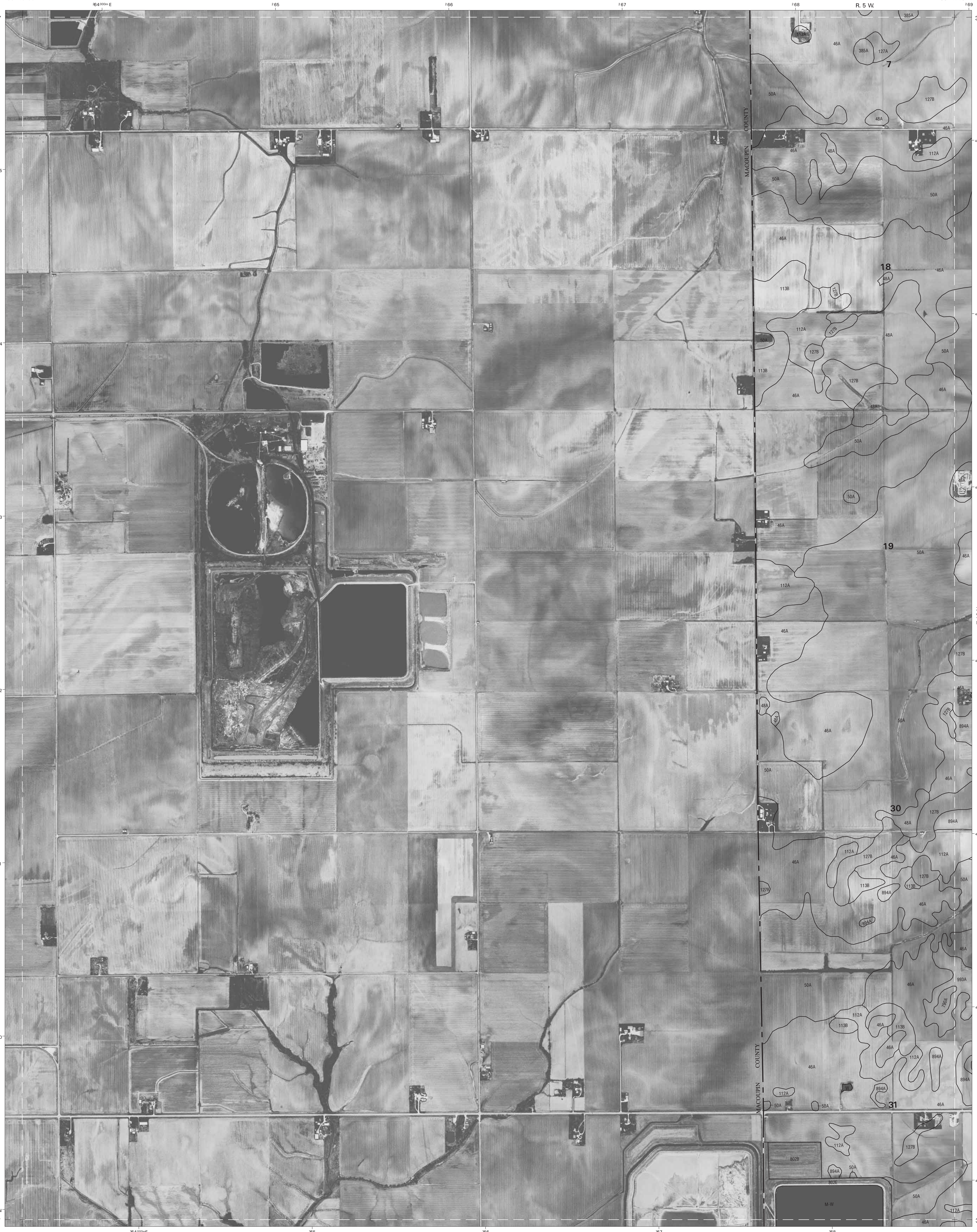
INDEX TO ADJOINING 3.75 MAPS

PAWNEE SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 4 OF 66

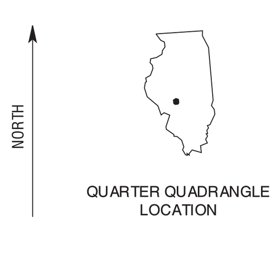
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

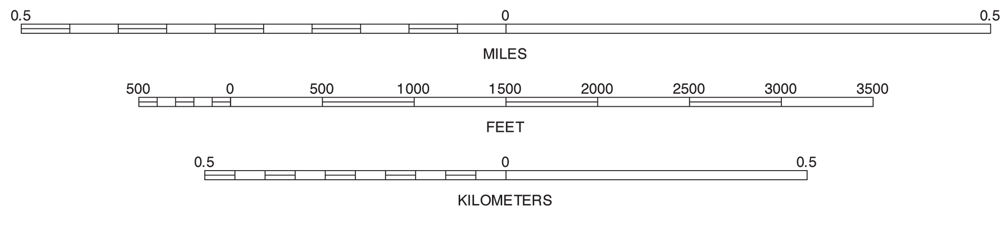


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:12000



	1	2
		6
	9	10

1 DIVERNON SW
2 DIVERNON SE
6 FARMERSVILLE NE
9 FARMERSVILLE SW
10 FARMERSVILLE SE

INDEX TO ADJOINING 3.75 MAPS

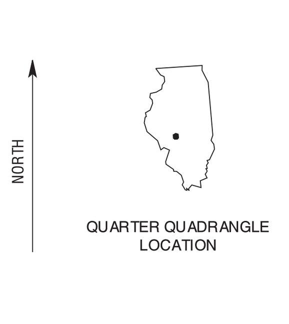
FARMERSVILLE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 5 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

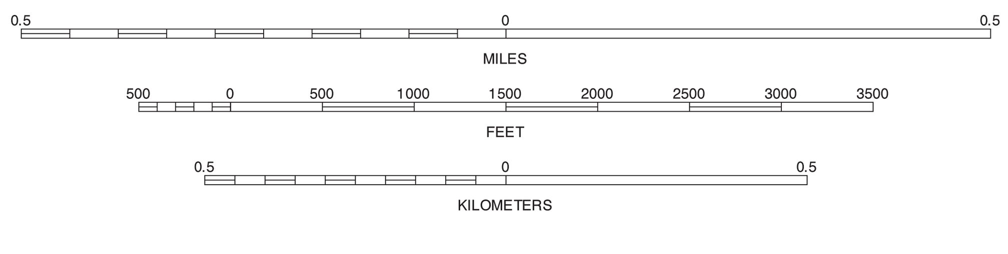
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



1	2	3
5		7
9	10	11

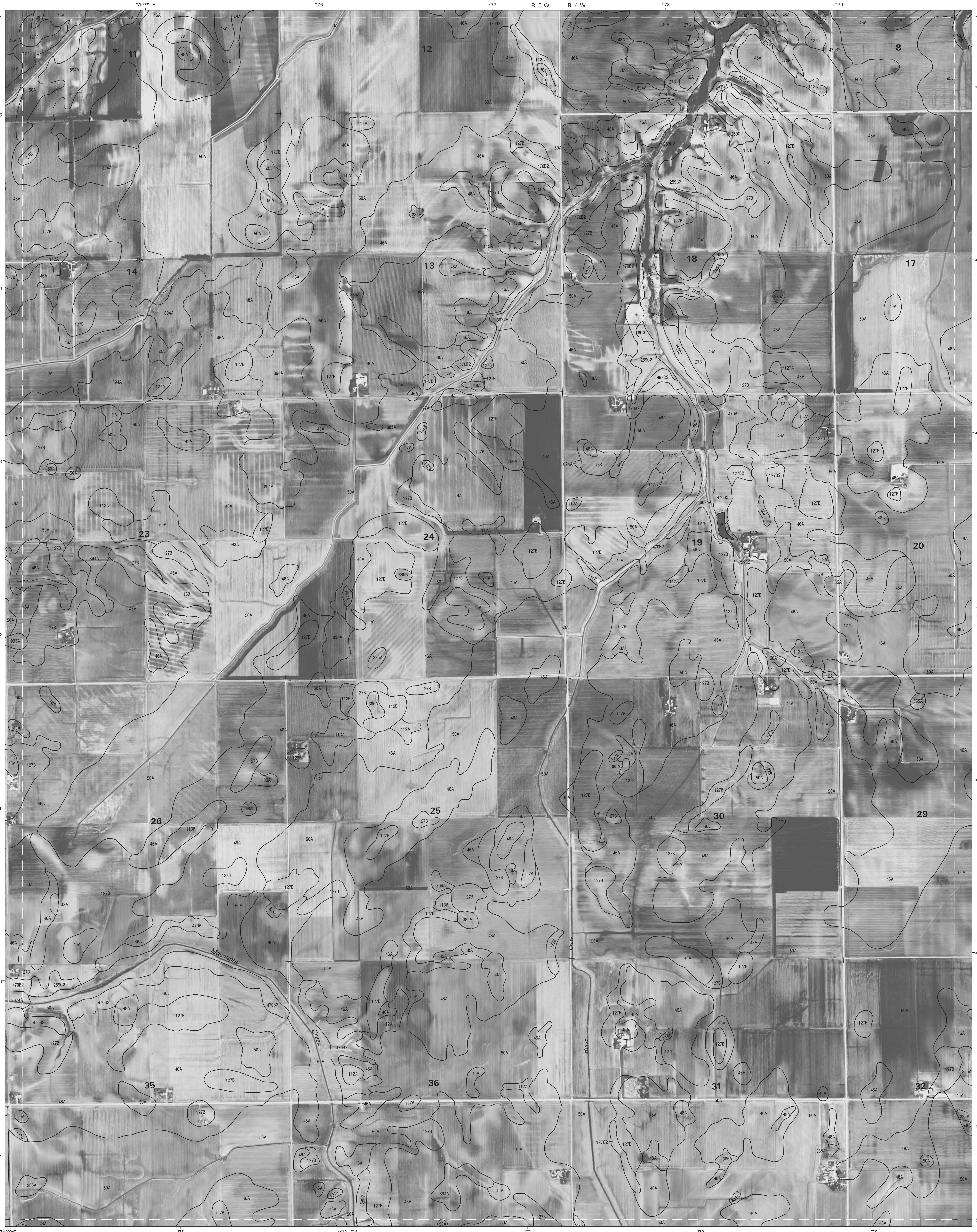
1 DIVERNON SW
2 DIVERNON SE
3 PAWNEE SW
5 FARMERSVILLE NW
7 RAYMOND NE NW
9 FARMERSVILLE SW
10 FARMERSVILLE SE
11 RAYMOND NE SW

INDEX TO ADJOINING 3.75 MAPS

FARMERSVILLE NE, ILLINOIS

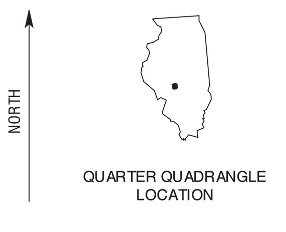
3.75 MINUTE SERIES
SHEET NUMBER 6 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

2	3	4
6		8
10	11	12

2 DIVERNON SE
3 PAWNEE SW
4 PAWNEE SE
6 FARMERSVILLE NE
8 RAYMOND NE NE
10 FARMERSVILLE SE
11 RAYMOND NE SW
12 RAYMOND NE SE

INDEX TO ADJOINING 3.75 MAPS

RAYMOND NE NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 7 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

SCALE 1:12000

MILES

FEET

KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

3	4	
7		
11	12	

3 PAWNEE SW
4 PAWNEE SE
7 RAYMOND NE NW
11 RAYMOND NE SW
12 RAYMOND NE SE

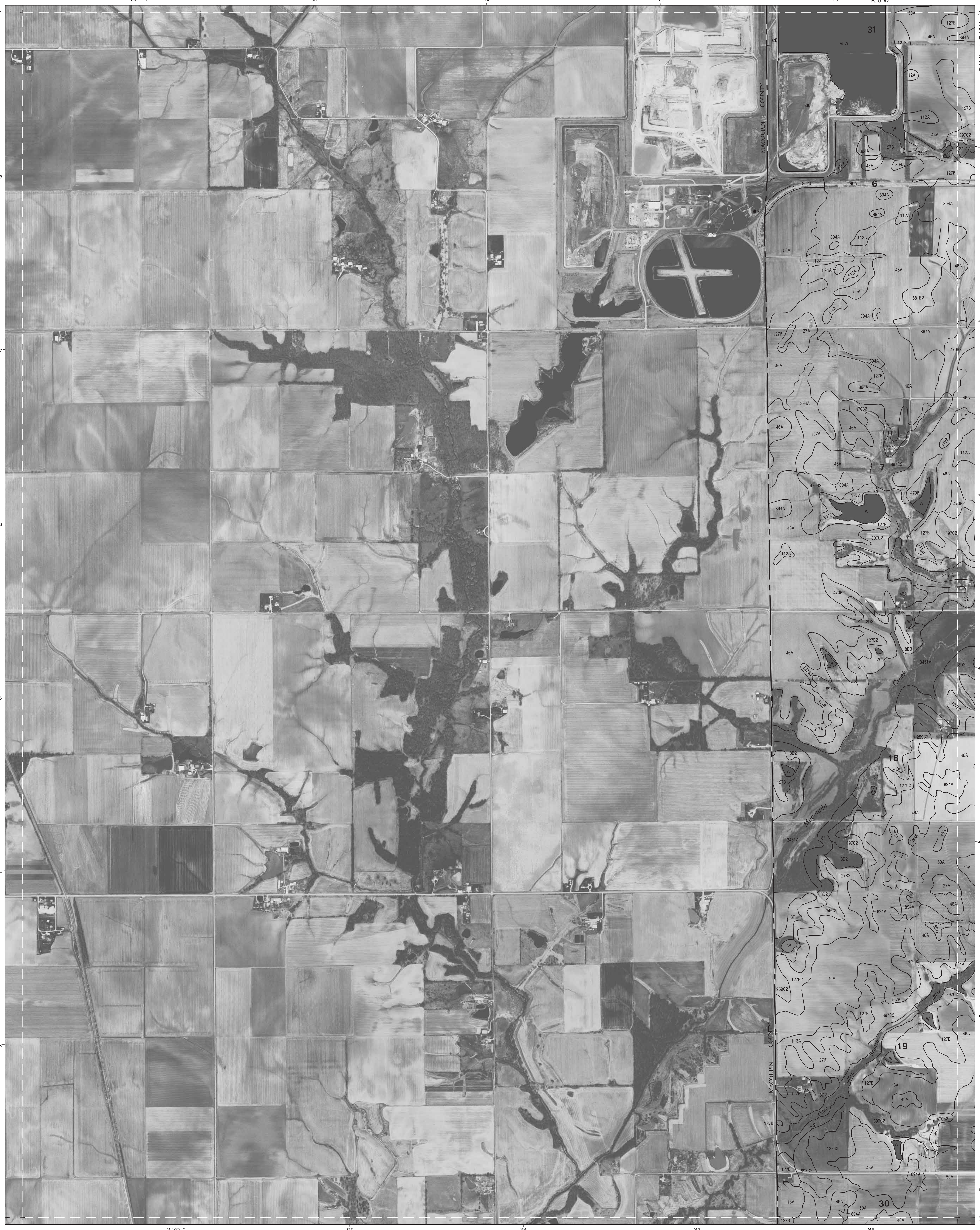
INDEX TO ADJOINING 3.75 MAPS

RAYMOND NE NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 8 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

89° 45′00″ — 89° 41′15″
39° 26′15″



39° 22′30″
89° 45′00″ — 89° 41′15″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

	5	6
		10
	13	14

5 FARMERSVILLE NW
6 FARMERSVILLE NE
10 FARMERSVILLE SE
13 ATWATER NW
14 ATWATER NE

INDEX TO ADJOINING 3.75 MAPS

FARMERSVILLE SW, ILLINOIS

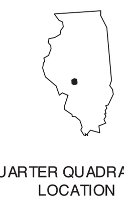
3.75 MINUTE SERIES
SHEET NUMBER 9 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

5	6	7
9		11
13	14	15

5 FARMERSVILLE NW
6 FARMERSVILLE NE
7 RAYMOND NE NW
9 FARMERSVILLE SW
11 RAYMOND NE SW
13 ATWATER NW
14 ATWATER NE
15 RAYMOND NW

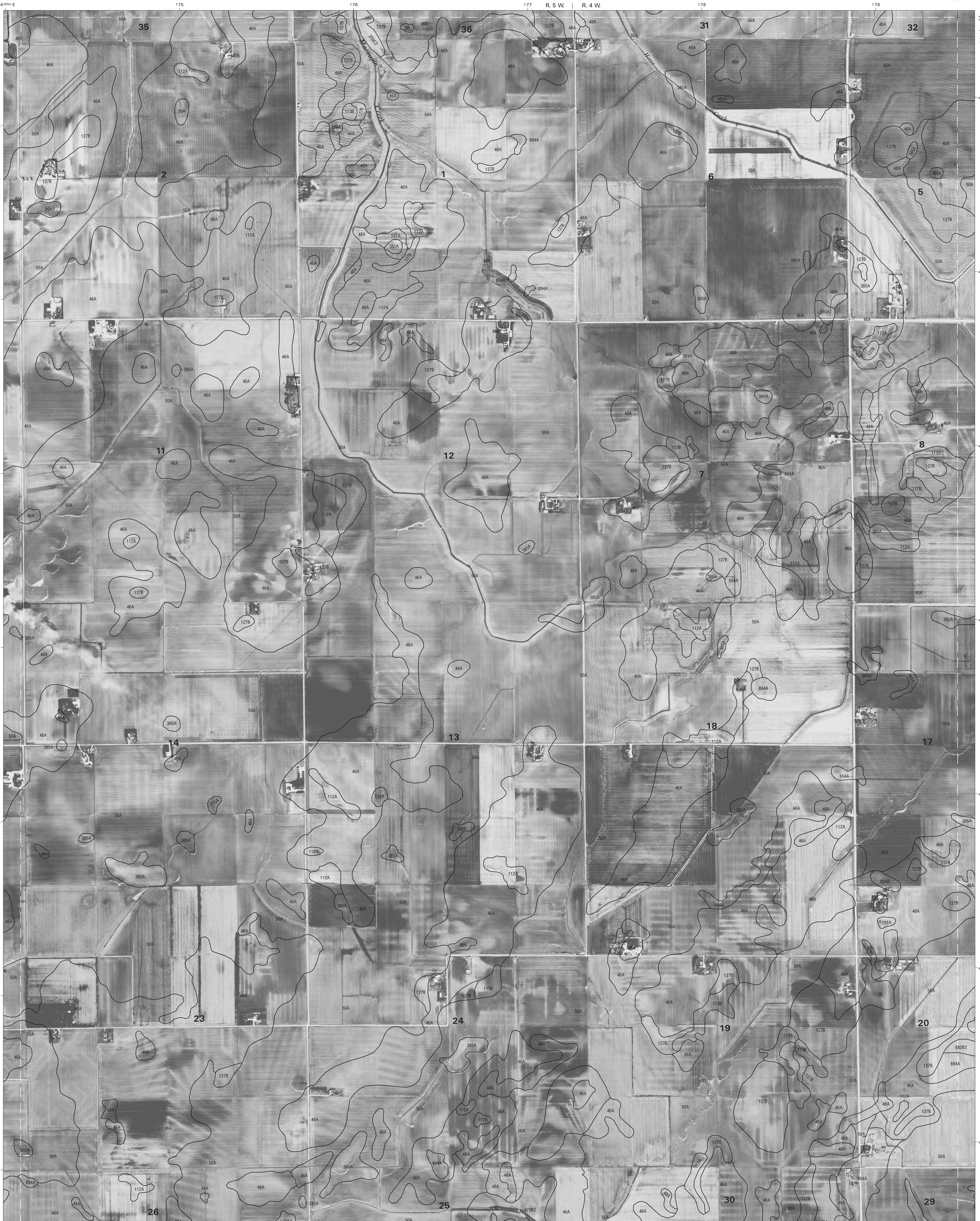
INDEX TO ADJOINING 3.75 MAPS

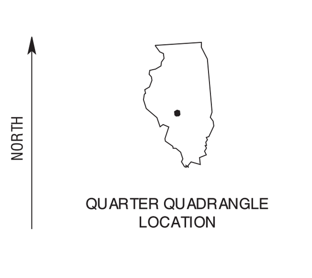
FARMERSVILLE SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 10 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

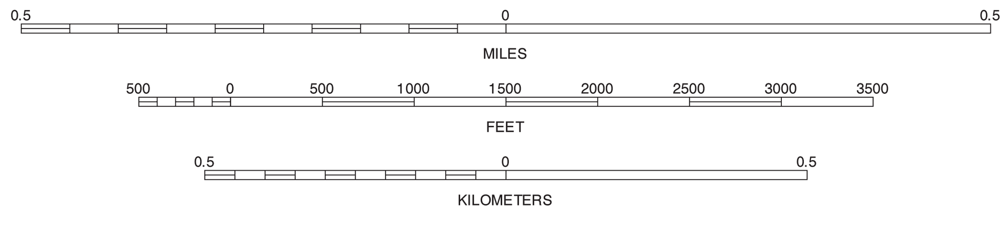
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
RAYMOND NE SW QUADRANGLE
SHEET NUMBER 11 OF 66





SCALE 1:12000



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

6	7	8
10		12
14	15	16

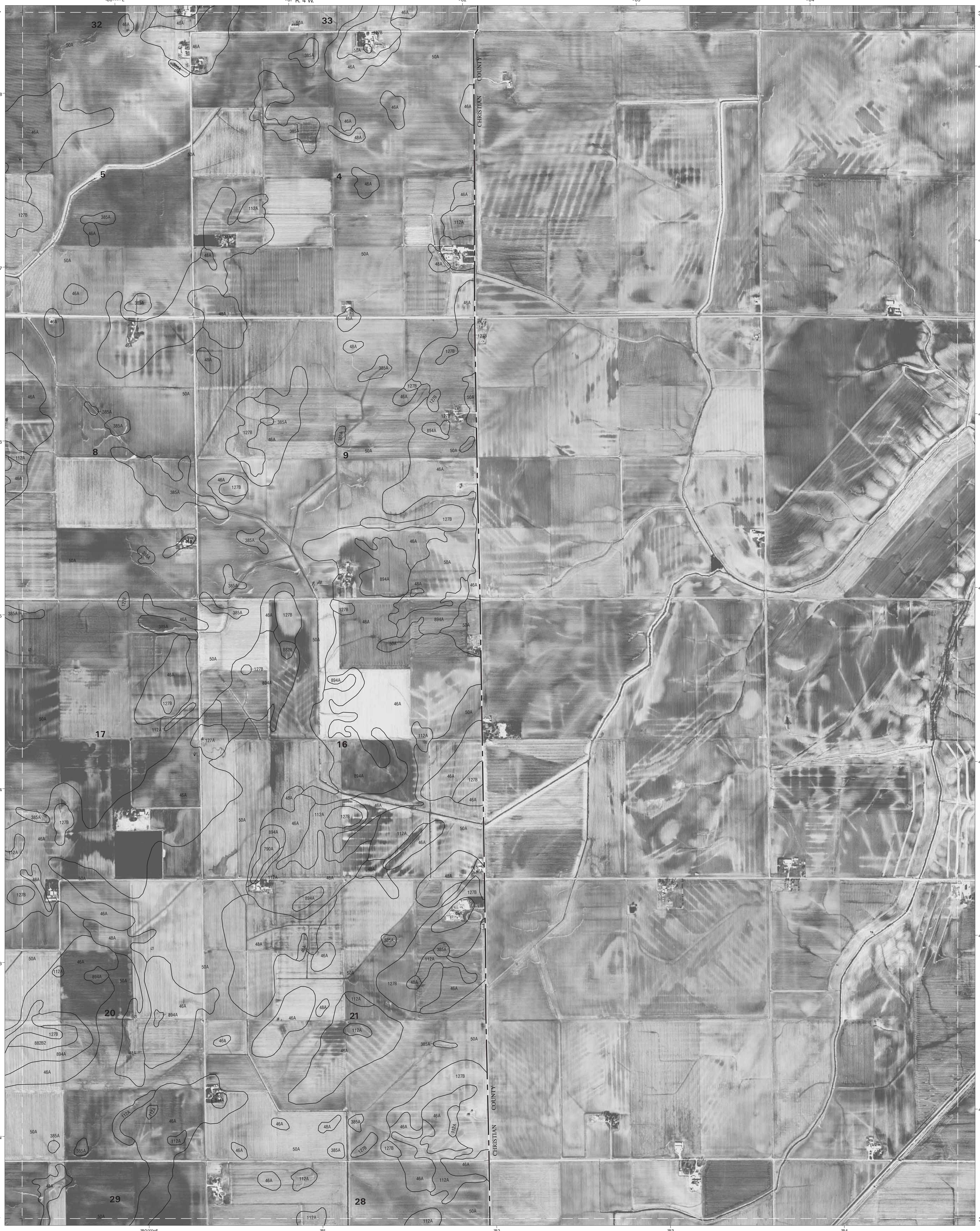
6 FARMERSVILLE NE
7 RAYMOND NE NW
8 RAYMOND NE NE
10 FARMERSVILLE SE
12 RAYMOND NE SE
14 ATWATER NE
15 RAYMOND NW
16 RAYMOND NE

INDEX TO ADJOINING 3.75 MAPS

RAYMOND NE SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 11 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE



SCALE 1:12000

MILES

FEET

KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

7	8	
11		
15	16	17

7 RAYMOND NE NW
8 RAYMOND NE NE
11 RAYMOND NE SW
15 RAYMOND NW
16 RAYMOND NE
17 NOKOMIS SW NW

INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

RAYMOND NE SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 12 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SCALE 1:12000

MILES 0.5 — 0 — 0.5

FEET 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS 0.5 — 0 — 0.5

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

	9	10
		14
	23	24

9 FARMERSVILLE SW
10 FARMERSVILLE SE
14 ATWATER NE
23 ATWATER SW
24 ATWATER SE

INDEX TO ADJOINING 3.75 MAPS

ATWATER NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 13 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
ATWATER NE QUADRANGLE
SHEET NUMBER 14 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

9	10	11
13		15
23	24	25

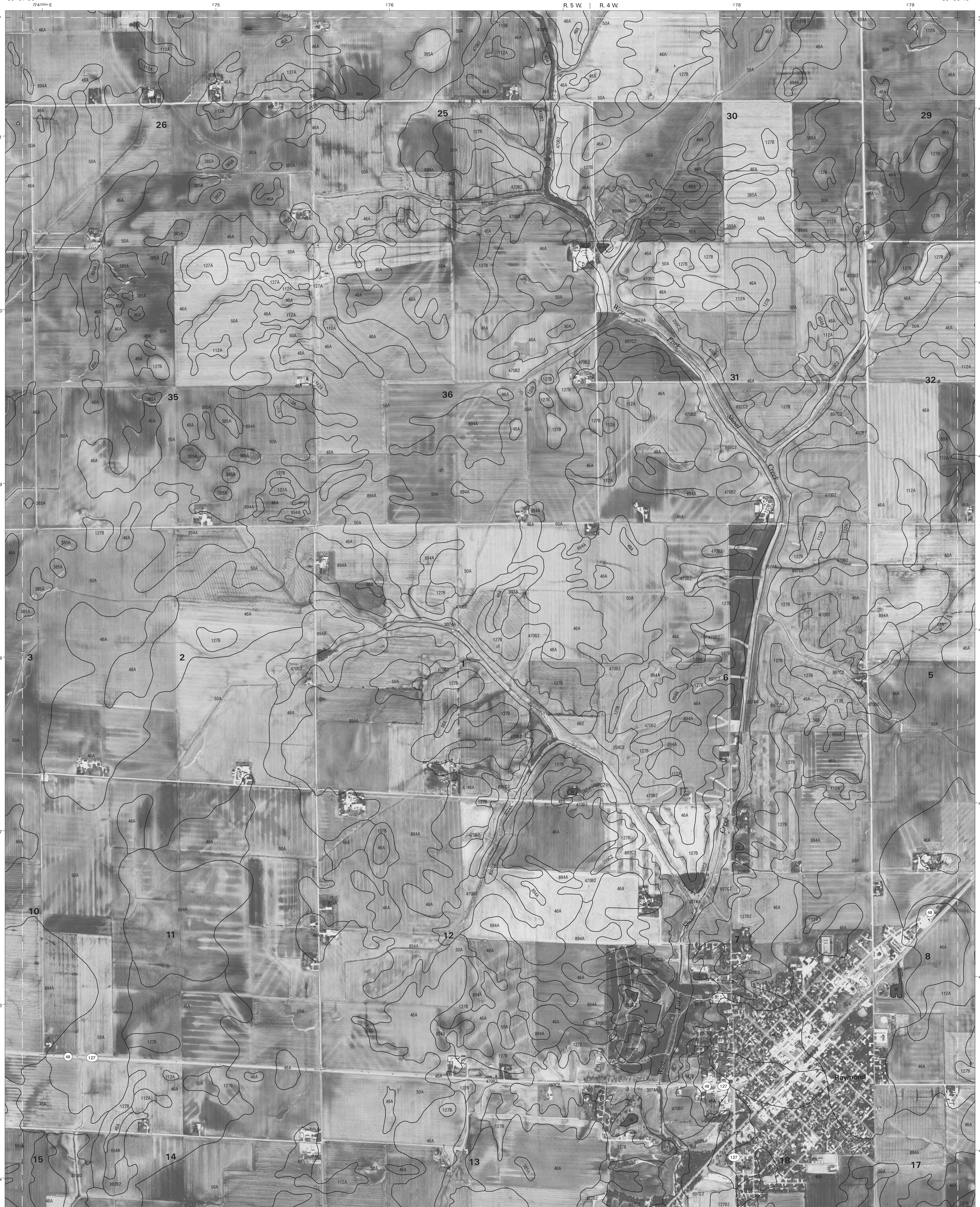
9 FARMERSVILLE SW
10 FARMERSVILLE SE
11 RAYMOND NE SW
13 ATWATER NW
15 RAYMOND NW
23 ATWATER SW
24 ATWATER SE
25 RAYMOND SW

INDEX TO ADJOINING 3.75 MAPS

ATWATER NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 14 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

89° 37′30″ 89° 33′45″
39° 22′30″ 39° 22′30″



39° 18′45″ 39° 18′45″
89° 37′30″ 89° 33′45″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

10	11	12
14		16
24	25	26

10 FARMERSVILLE SE
11 RAYMOND NE SW
12 RAYMOND NE SE
14 ATWATER NE
16 RAYMOND NE
24 ATWATER SE
25 RAYMOND SW
26 RAYMOND SE

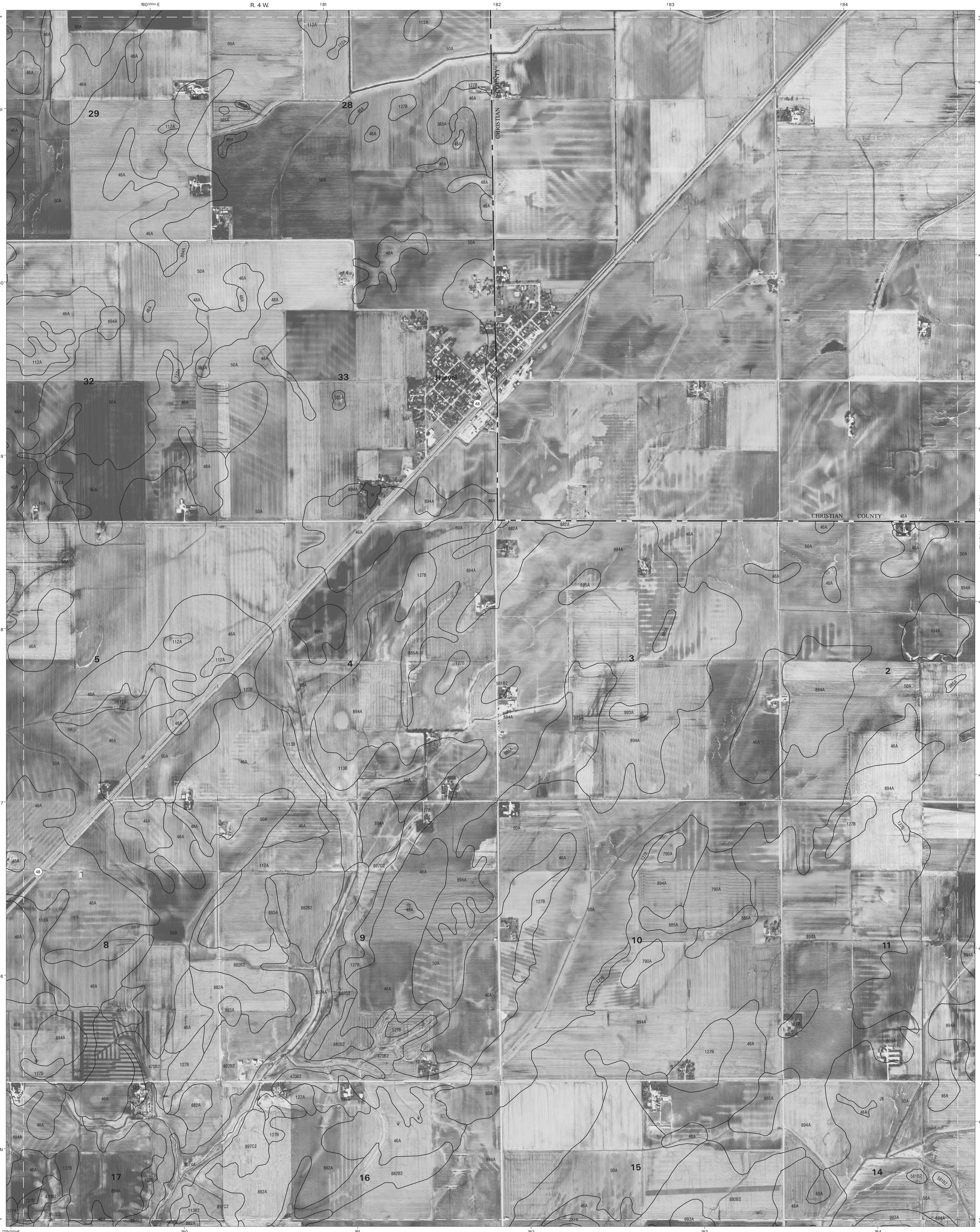
INDEX TO ADJOINING 3.75 MAPS

RAYMOND NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 15 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
RAYMOND NE QUADRANGLE
SHEET NUMBER 16 OF 66



SCALE 1:12000

MILES

FEET

KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

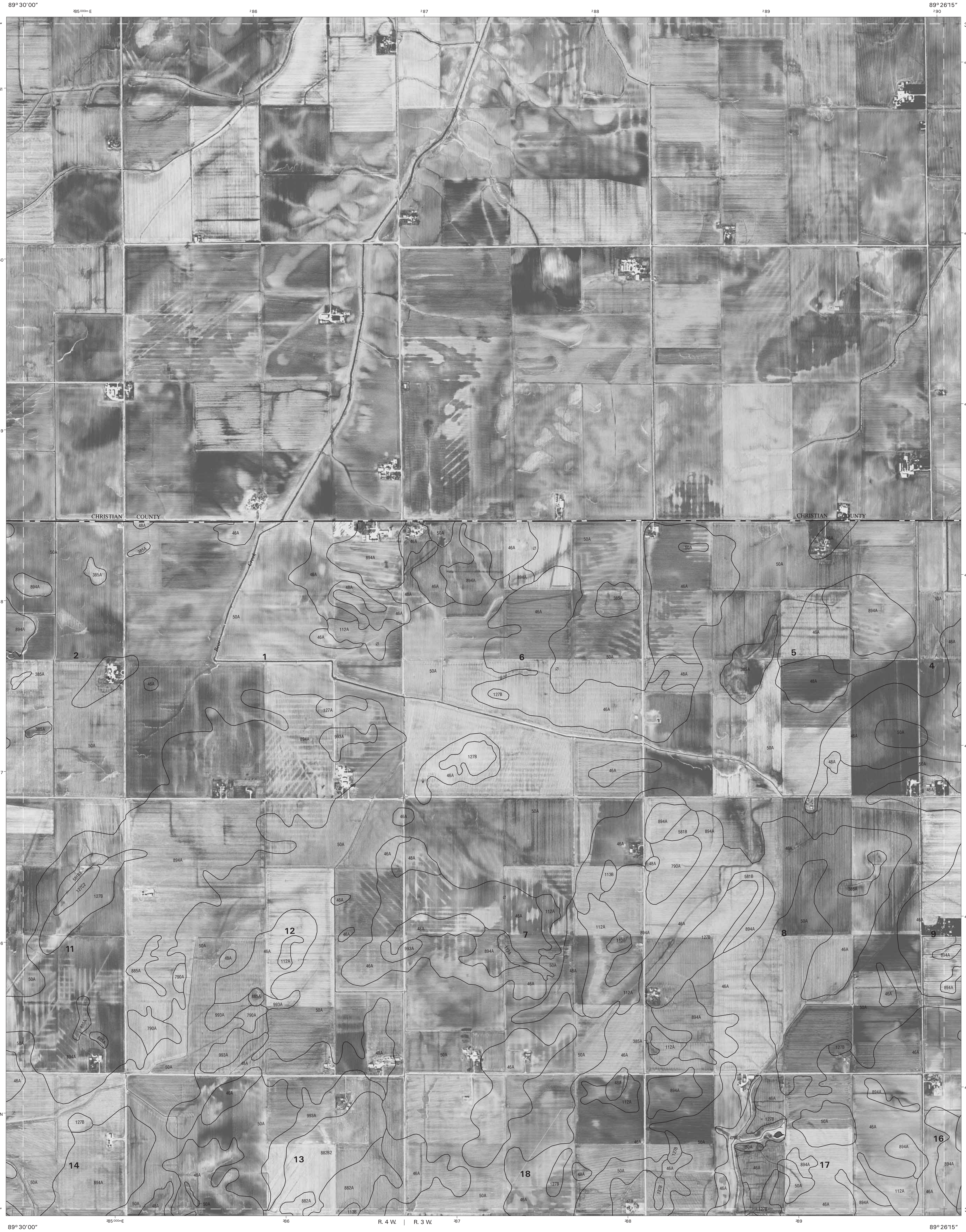
11	12	
15		17
25	26	27

11 RAYMOND NE SW
12 RAYMOND NE SE
15 RAYMOND NW
17 NOKOMIS SW NW
25 RAYMOND SW
26 RAYMOND SE
27 NOKOMIS SW SW

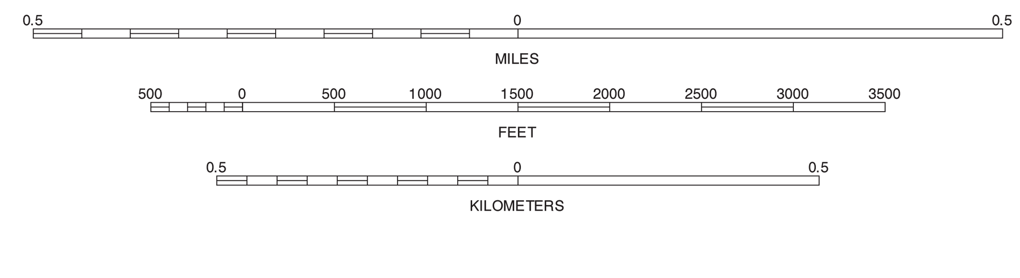
INDEX TO ADJOINING 3.75 MAPS

RAYMOND NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 16 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

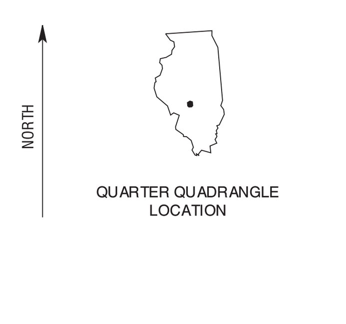


SCALE 1:12000



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



12		
16	■	18
26	27	28

12 RAYMOND NE SE
16 RAYMOND NE
18 NOKOMIS SW NE
26 RAYMOND SE
27 NOKOMIS SW SW
28 NOKOMIS SW SE

INDEX TO ADJOINING 3.75 MAPS

NOKOMIS SW NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 17 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

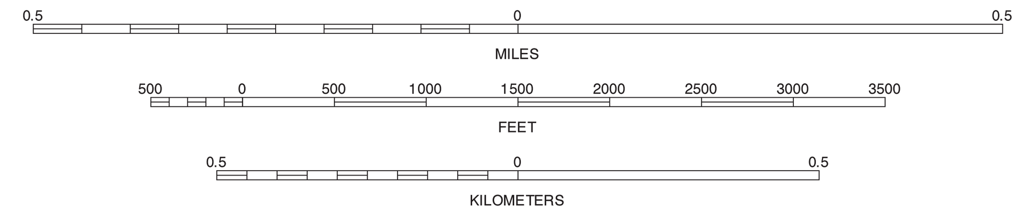
MONTGOMERY COUNTY, ILLINOIS
NOKOMIS SW NE QUADRANGLE
SHEET NUMBER 18 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000



17		19
27	28	29

17 NOKOMIS SW NW
19 NOKOMIS NW
27 NOKOMIS SW SW
28 NOKOMIS SW SE
29 NOKOMIS SW

INDEX TO ADJOINING 3.75 MAPS

NOKOMIS SW NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 18 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

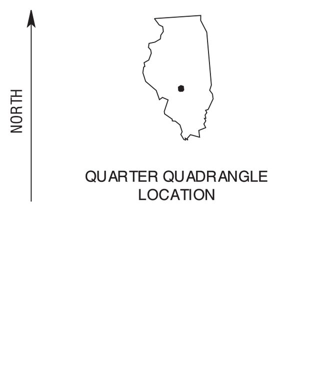
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
NOKOMIS NW QUADRANGLE
SHEET NUMBER 19 OF 66

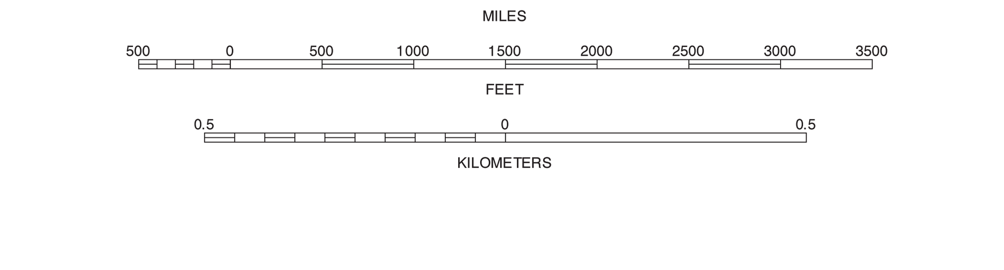
SCALE 1:12000

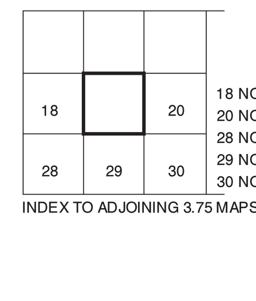
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION





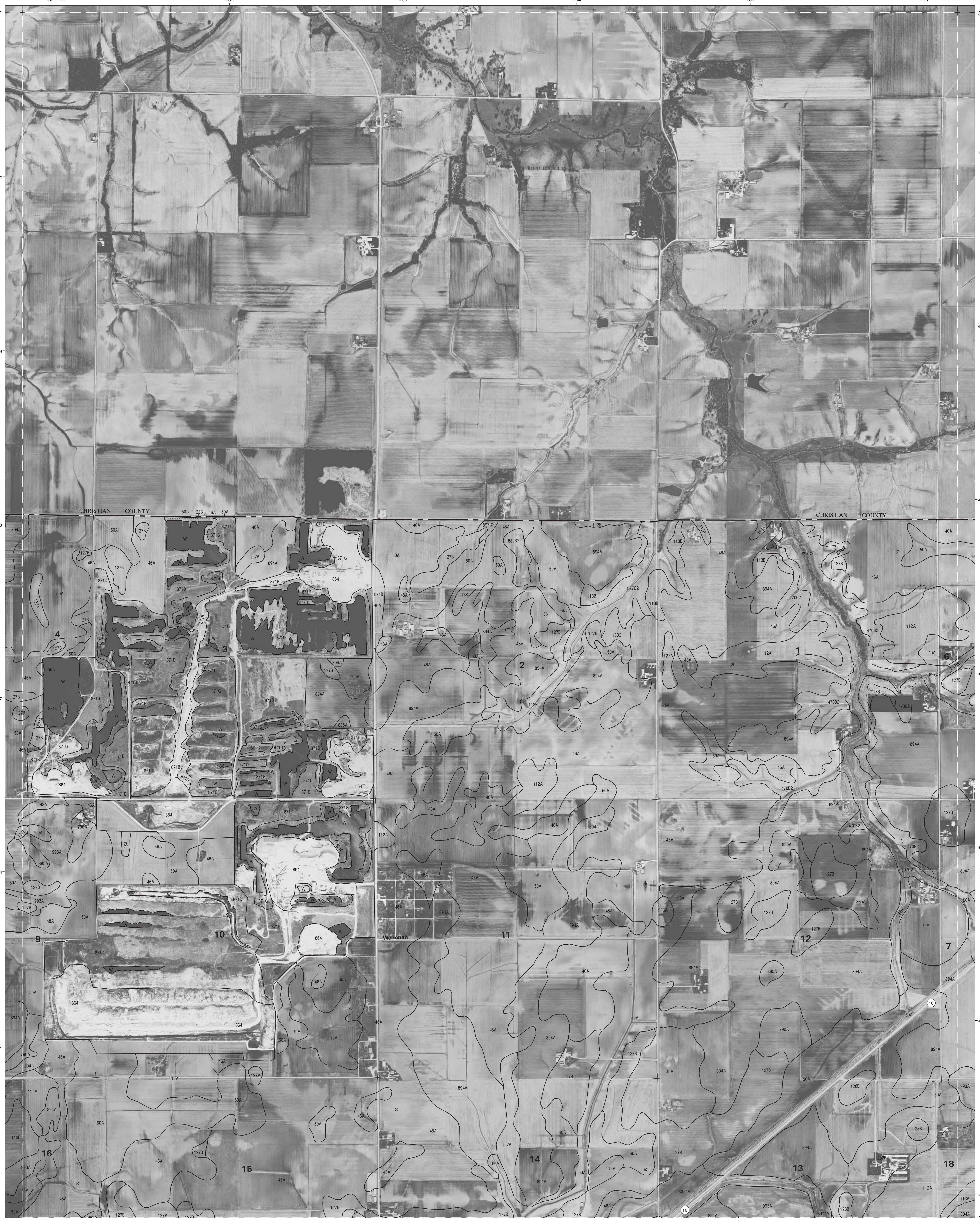
INDEX TO ADJOINING 3.75 MAPS

NOKOMIS NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 19 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

89°18′45″ 89°15′00″
39°22′30″ 39°22′30″



39°18′45″ 39°18′45″
89°18′45″ R. 2 W. | R. 1 W. 89°15′00″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

19		21
29	30	31

19 NOKOMIS NW
21 OHLMAN NW
29 NOKOMIS SW
30 NOKOMIS SE
31 OHLMAN SW

INDEX TO ADJOINING 3.75 MAPS

NOKOMIS NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 20 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

SCALE 1:12000

MILES

FEET

KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

20		22
30	31	32

20 NOKOMIS NE
22 OHLMAN NE
30 NOKOMIS SE
31 OHLMAN SW
32 OHLMAN SE

INDEX TO ADJOINING 3.75 MAPS

OHLMAN NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 21 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
OHLMAN NE QUADRANGLE
SHEET NUMBER 22 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

21		
31	32	

21 OHLMAN NW
31 OHLMAN SW
32 OHLMAN SE

INDEX TO ADJOINING 3.75 MAPS

OHLMAN NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 22 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
ATWATER SW QUADRANGLE
SHEET NUMBER 23 OF 66

SCALE 1:12000

MILES

FEET

KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

13 ATWATER NW
14 ATWATER NE
24 ATWATER SE
33 LITCHFIELD NW
34 LITCHFIELD NE

INDEX TO ADJOINING 3.75 MAPS

ATWATER SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 23 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
ATWATER SE QUADRANGLE
SHEET NUMBER 24 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

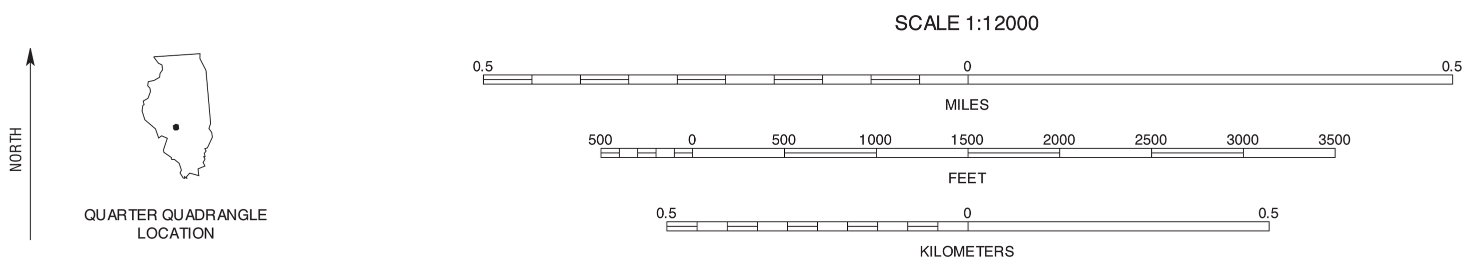
13	14	15
23		25
33	34	35

13 ATWATER NW
14 ATWATER NE
15 RAYMOND NW
23 ATWATER SW
25 RAYMOND SW
33 LITCHFIELD NW
34 LITCHFIELD NE
35 BUTLER NW

INDEX TO ADJOINING 3.75 MAPS

ATWATER SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 24 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

14	15	16
24		26
34	35	36

14 ATWATER NE
15 RAYMOND NW
16 RAYMOND NE
24 ATWATER SE
26 RAYMOND SE
34 LITCHFIELD NE
35 BUTLER NW
36 BUTLER NE

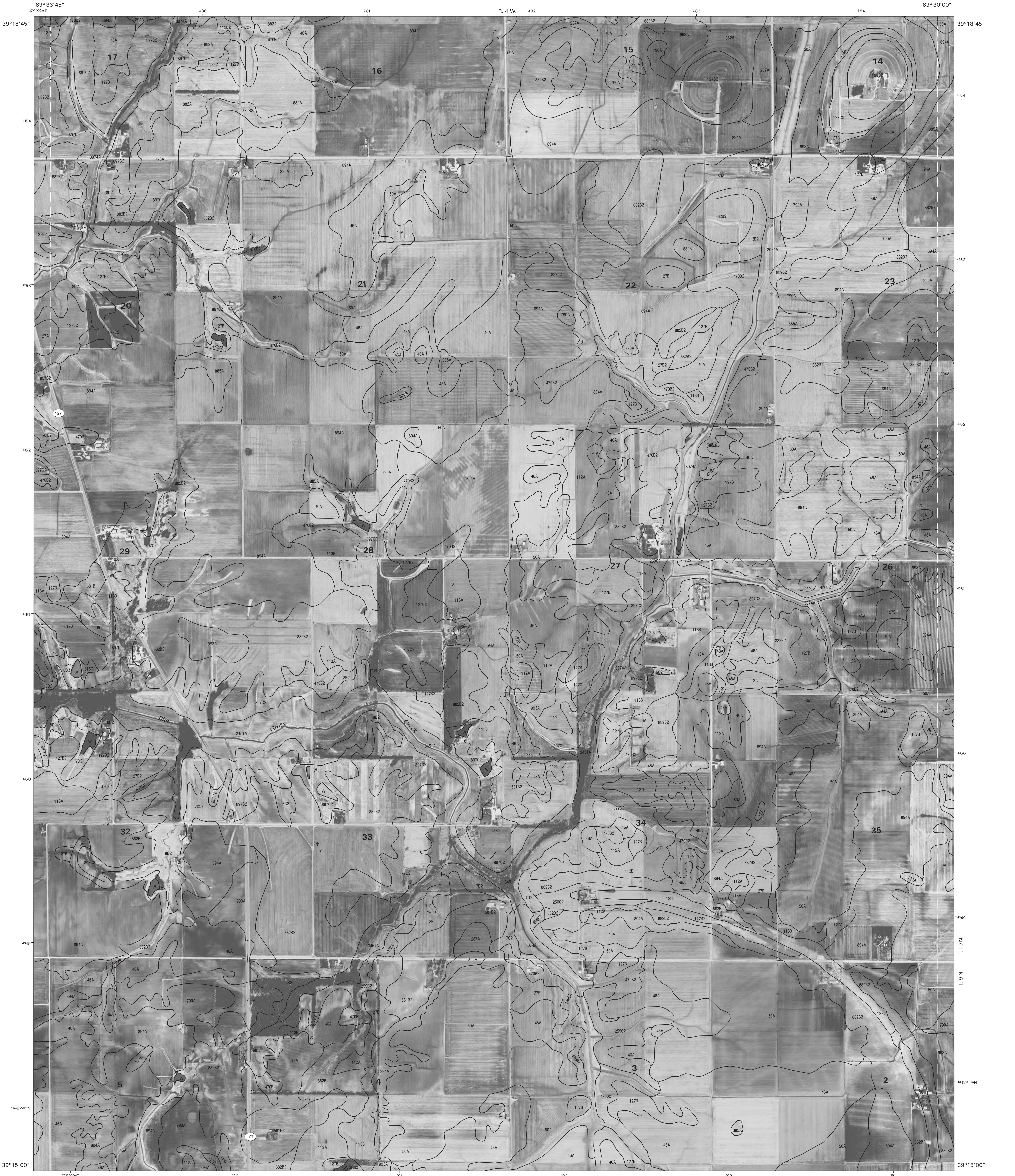
INDEX TO ADJOINING 3.75 MAPS

RAYMOND SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 25 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
RAYMOND SE QUADRANGLE
SHEET NUMBER 26 OF 66



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

15	16	17
25		27
35	36	37

15 RAYMOND NW
16 RAYMOND NE
17 NOKOMIS SW NW
25 RAYMOND SW
27 NOKOMIS SW SW
35 BUTLER NW
36 BUTLER NE
37 HILLSBORO NW

INDEX TO ADJOINING 3.75 MAPS

RAYMOND SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 26 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

89° 30′00″ | 89° 26′15″

39°18′45″ | 39°18′45″

39°15′00″ | 39°15′00″

89° 30′00″ | 89° 26′15″

SCALE 1:12000

MILES

FEET

KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

16	17	18
26		28
36	37	38

16 RAYMOND NE
17 NOKOMIS SW NW
18 NOKOMIS SW NE
26 RAYMOND SE
28 NOKOMIS SW SE
36 BUTLER NE
37 HILLSBORO NW
38 HILLSBORO NE

INDEX TO ADJOINING 3.75 MAPS

NOKOMIS SW SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 27 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

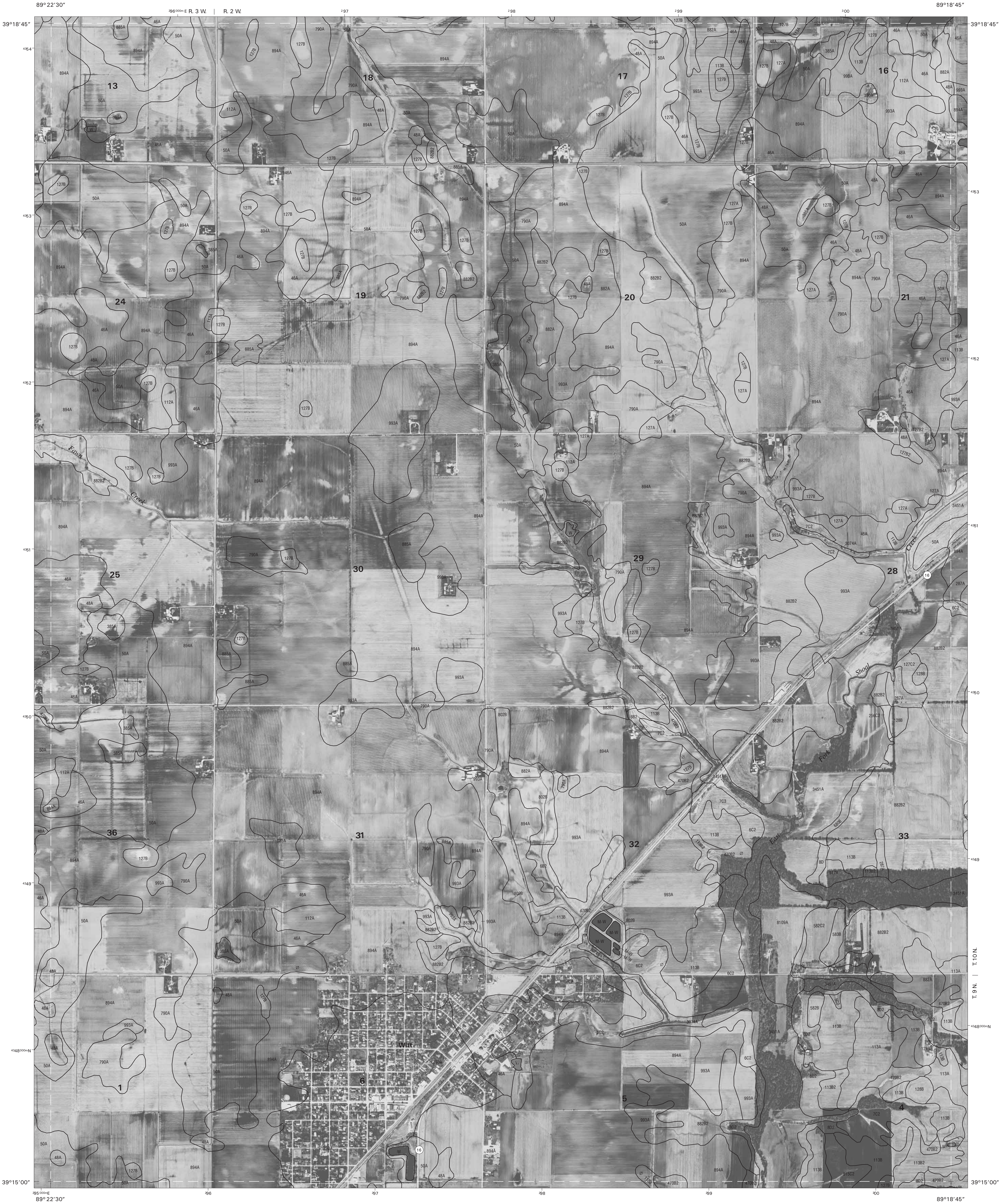
17	18	19
27		29
37	38	39

17 NOKOMIS SW NW
18 NOKOMIS SW NE
19 NOKOMIS NW
27 NOKOMIS SW SW
29 NOKOMIS SW
37 HILLSBORO NW
38 HILLSBORO NE
39 BALD KNOB NW

INDEX TO ADJOINING 3.75 MAPS

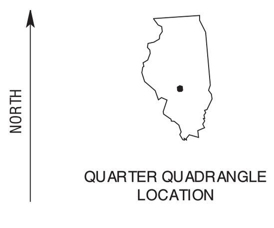
NOKOMIS SW SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 28 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



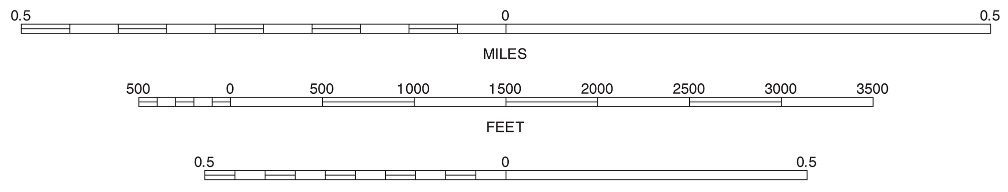
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



18	19	20
28		30
38	39	40

18 NOKOMIS SW NE
19 NOKOMIS NW
20 NOKOMIS NE
28 NOKOMIS SW SE
30 NOKOMIS SE
38 HILLSBORO NE
39 BALD KNOB NW
40 BALD KNOB NE

INDEX TO ADJOINING 3.75 MAPS

NOKOMIS SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 29 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

SCALE 1:12000

MILES

FEET

KILOMETERS

QUARTER QUADRANGLE LOCATION

NORTH

19	20	21
29		31
39	40	41

19 NOKOMIS NW
20 NOKOMIS NE
21 OHLMAN NW
29 NOKOMIS SW
31 OHLMAN SW
39 BALD KNOB NW
40 BALD KNOB NE
41 RAMSEY LAKE NW

INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

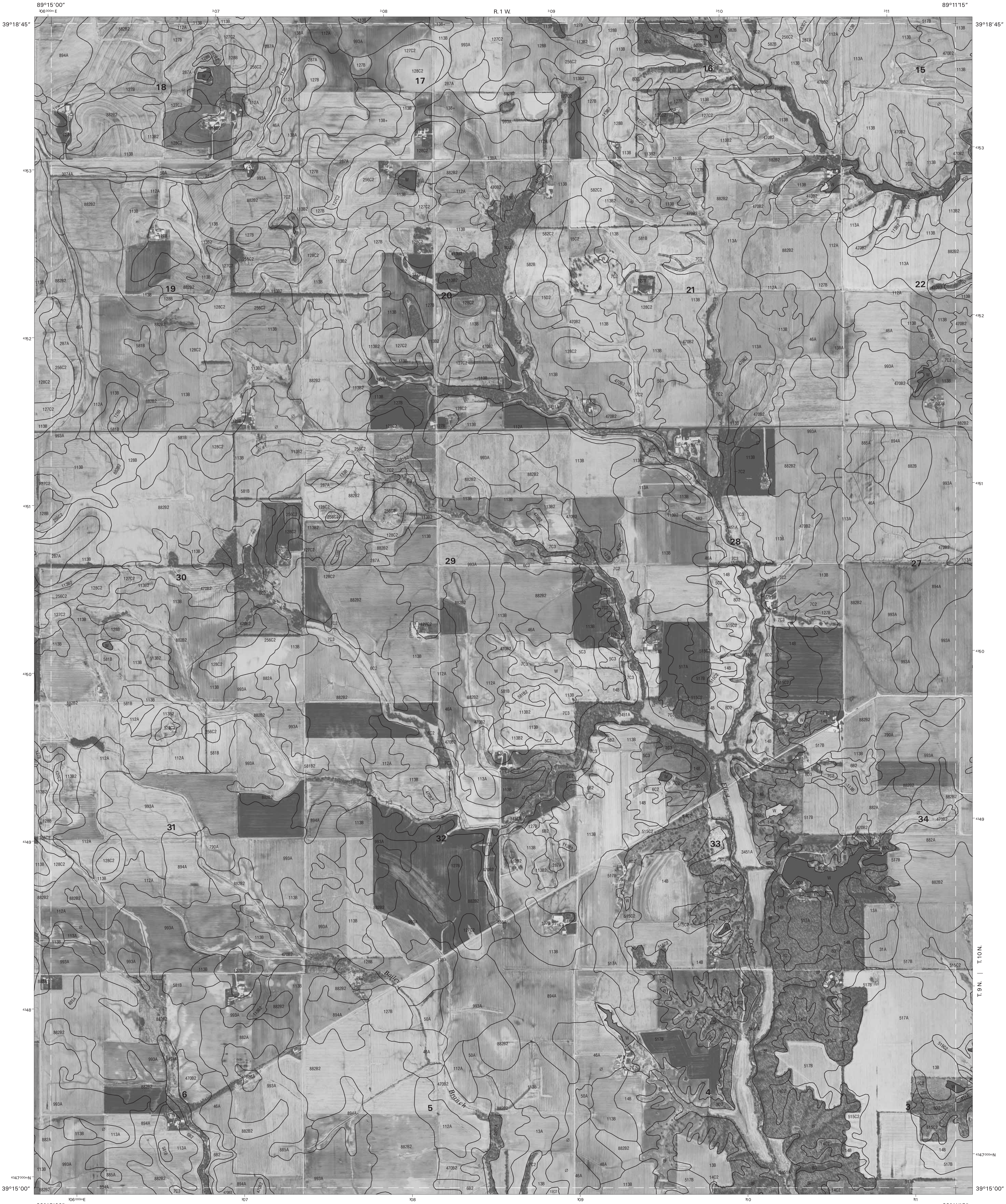
North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NOKOMIS SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 30 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
OHLMAN SW QUADRANGLE
SHEET NUMBER 31 OF 66



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

20	21	22
30		32
40	41	42

20 NOKOMIS NE
21 OHLMAN NW
22 OHLMAN NE
30 NOKOMIS SE
32 OHLMAN SE
40 BALD KNOB NE
41 RAMSEY LAKE NW
42 RAMSEY LAKE NE

INDEX TO ADJOINING 3.75 MAPS

OHLMAN SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 31 OF 66

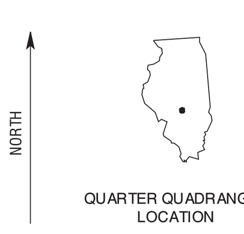
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
OHLMAN SE QUADRANGLE
SHEET NUMBER 32 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

21	22	
31		
41	42	

21 OHLMAN NW
22 OHLMAN NE
31 OHLMAN SW
41 RAMSEY LAKE NW
42 RAMSEY LAKE NE

INDEX TO ADJOINING 3.75 MAPS

OHLMAN SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 32 OF 66

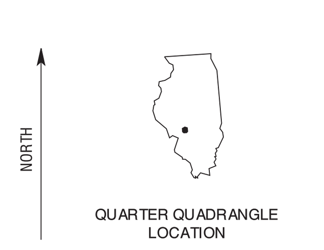
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
LITCHFIELD NW QUADRANGLE
SHEET NUMBER 33 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

	23	24
		34
	43	44

23 ATWATER SW
24 ATWATER SE
34 LITCHFIELD NE
43 LITCHFIELD SW
44 LITCHFIELD SE

INDEX TO ADJOINING 3.75 MAPS

LITCHFIELD NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 33 OF 66

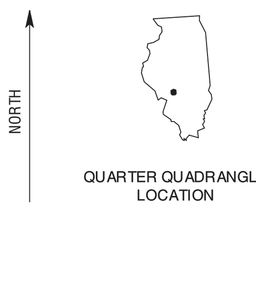
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
LITCHFIELD NE QUADRANGLE
SHEET NUMBER 34 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

23	24	25
33		35
43	44	45

23 ATWATER SW
24 ATWATER SE
25 RAYMOND SW
33 LITCHFIELD NW
35 BUTLER NW
43 LITCHFIELD SW
44 LITCHFIELD SE
45 BUTLER SW

INDEX TO ADJOINING 3.75 MAPS

LITCHFIELD NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 34 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
BUTLER NW QUADRANGLE
SHEET NUMBER 35 OF 66

SCALE 1:12000

MILES

FEET

KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

24 ATWATER SE
25 RAYMOND SW
26 RAYMOND SE
34 LITCHFIELD NE
36 BUTLER NE
44 LITCHFIELD SE
45 BUTLER SW
46 BUTLER SE

INDEX TO ADJOINING 3.75 MAPS

BUTLER NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 35 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

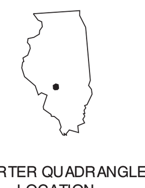
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
BUTLER NE QUADRANGLE
SHEET NUMBER 36 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

25	26	27
35		37
45	46	47

25 RAYMOND SW
26 RAYMOND SE
27 NOKOMIS SW SW
35 BUTLER NW
37 HILLSBORO NW
45 BUTLER SW
46 BUTLER SE
47 HILLSBORO SW

INDEX TO ADJOINING 3.75 MAPS

BUTLER NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 36 OF 66

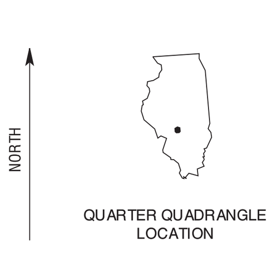
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
HILLSBORO NW QUADRANGLE
SHEET NUMBER 37 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE
LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

26	27	28
36		38
46	47	48

26 RAYMOND SE
27 NOKOMIS SW SW
28 NOKOMIS SW SE
36 BUTLER NE
38 HILLSBORO NE
46 BUTLER SE
47 HILLSBORO SW
48 HILLSBORO SE

INDEX TO ADJOINING 3.75 MAPS

HILLSBORO NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 37 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
HILLSBORO NE QUADRANGLE
SHEET NUMBER 38 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

27	28	29	27 NOKOMIS SW SW
			28 NOKOMIS SW SE
			29 NOKOMIS SW
37		39	37 HILLSBORO NW
			39 BALD KNOB NW
47	48	49	47 HILLSBORO SW
			48 HILLSBORO SE
			49 BALD KNOB SW

INDEX TO ADJOINING 3.75 MAPS

HILLSBORO NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 38 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
BALD KNOB NW QUADRANGLE
SHEET NUMBER 39 OF 66

SCALE 1:12000

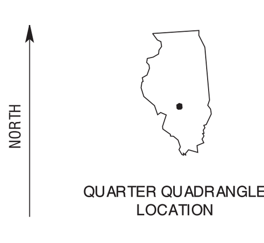
0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

28	29	30
38		40
48	49	50

28 NOKOMIS SW SE
29 NOKOMIS SW
30 NOKOMIS SE
38 HILLSBORO NE
40 BALD KNOB NE
48 HILLSBORO SE
49 BALD KNOB SW
50 BALD KNOB SE

INDEX TO ADJOINING 3.75 MAPS

BALD KNOB NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 39 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
BALD KNOB NE QUADRANGLE
SHEET NUMBER 40 OF 66

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

29	30	31
39		41
49	50	

29 NOKOMIS SW
30 NOKOMIS SE
31 OHLMAN SW
39 BALD KNOB NW
41 RAMSEY LAKE NW
49 BALD KNOB SW
50 BALD KNOB SE

INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

BALD KNOB NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 40 OF 66

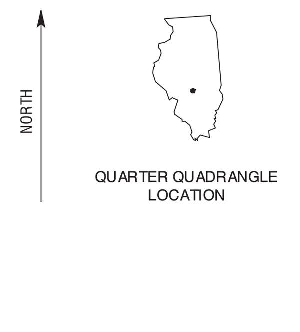
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

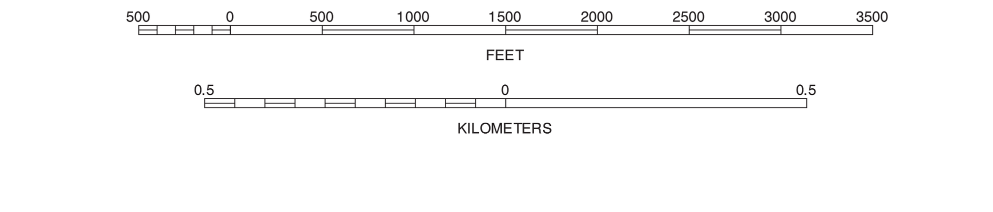
MONTGOMERY COUNTY, ILLINOIS
RAMSEY LAKE NW QUADRANGLE
SHEET NUMBER 41 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:12000



30	31	32
40		42
50		

30 NOKOMIS SE
31 OHLMAN SW
32 OHLMAN SE
40 BALD KNOB NE
42 RAMSEY LAKE NE
50 BALD KNOB SE

INDEX TO ADJOINING 3.75 MAPS

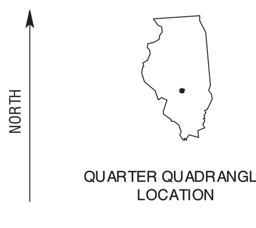
RAMSEY LAKE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 41 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

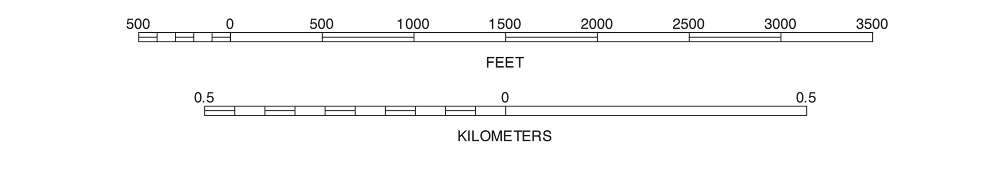
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

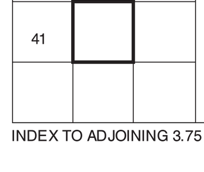
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000





31 OHLMAN SW
32 OHLMAN SE
41 RAMSEY LAKE NW

INDEX TO ADJOINING 3.75 MAPS

RAMSEY LAKE NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 42 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

89° 45′00″ — 89° 41′15″

39° 11′15″

39° 07′30″

89° 45′00″ — 89° 41′15″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 — 0 — 0.5 KILOMETERS

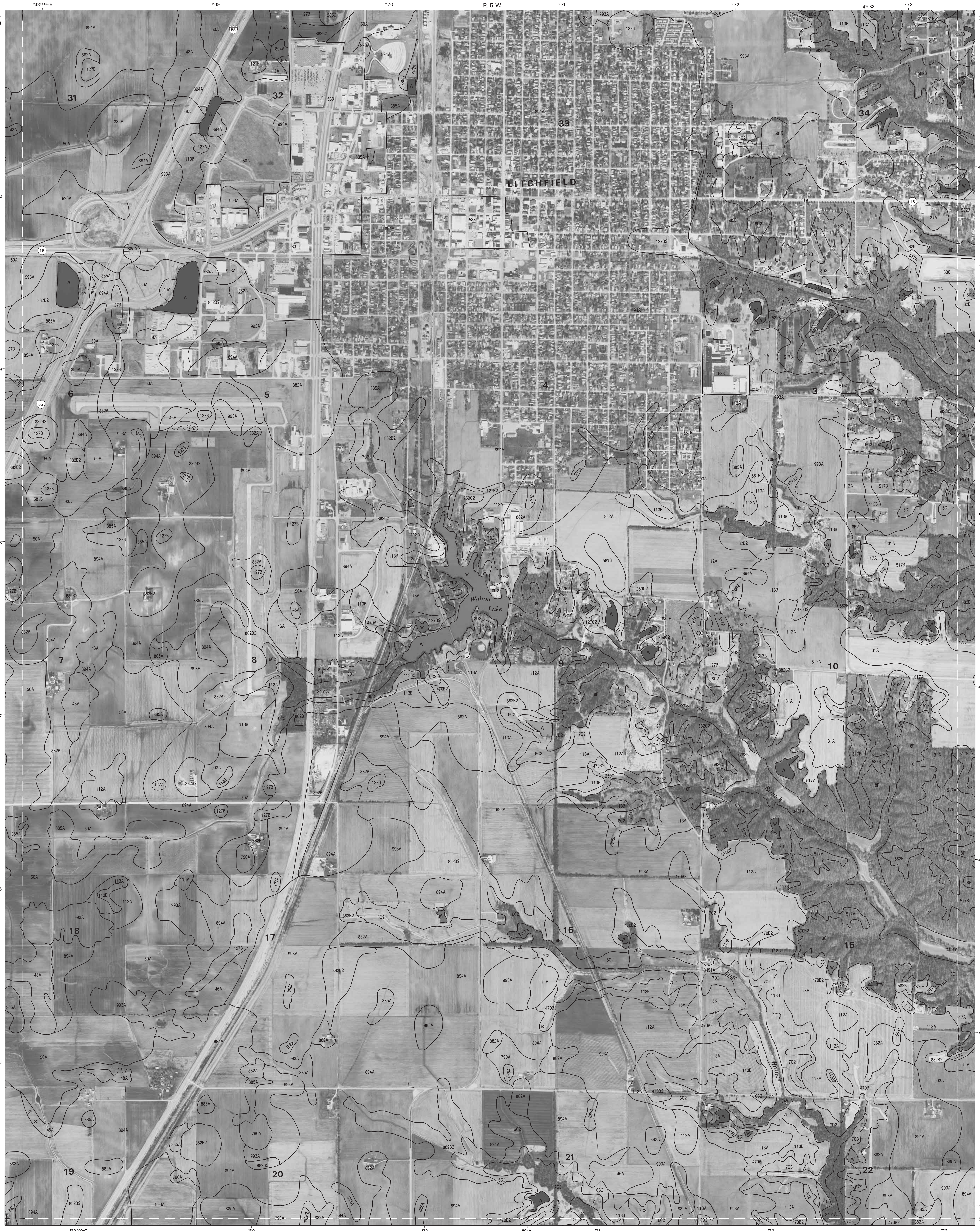
	33	34	33 LITCHFIELD NW 34 LITCHFIELD NE
	43	44	44 LITCHFIELD SE
	51	52	51 MOUNT OLIVE NW 52 MOUNT OLIVE NE

INDEX TO ADJOINING 3.75 MAPS

LITCHFIELD SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 43 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

33	34	35
43		45
51	52	53

33 LITCHFIELD NW
34 LITCHFIELD NE
35 BUTLER NW
43 LITCHFIELD SW
45 BUTLER SW
51 MOUNT OLIVE NW
52 MOUNT OLIVE NE
53 SORENTO NORTH NW

INDEX TO ADJOINING 3.75 MAPS

LITCHFIELD SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 44 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

SCALE 1:12000

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

34	35	36
44		46
52	53	54

34 LITCHFIELD NE
35 BUTLER NW
36 BUTLER NE
44 LITCHFIELD SE
46 BUTLER SE
52 MOUNT OLIVE NE
53 SORENTO NORTH NW
54 SORENTO NORTH NE

INDEX TO ADJOINING 3.75 MAPS

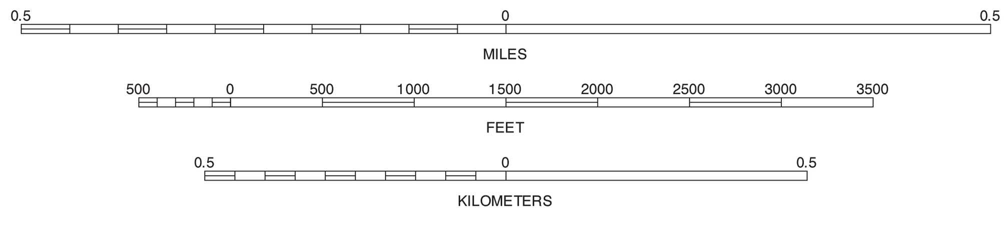
BUTLER SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 45 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



35	36	37
45		47
53	54	55

35 BUTLER NW
36 BUTLER NE
37 HILLSBORO NW
45 BUTLER SW
47 HILLSBORO SW
53 SORENTO NORTH NW
54 SORENTO NORTH NE
55 COFFEEN NW

INDEX TO ADJOINING 3.75 MAPS

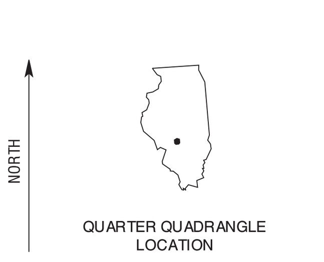
BUTLER SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 46 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

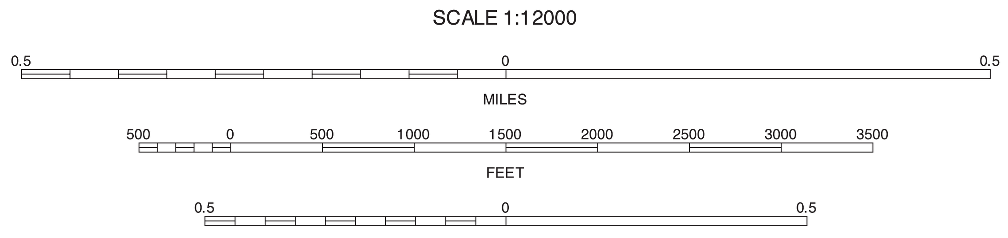
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



36	37	38
46		48
54	55	56

36 BUTLER NE
37 HILLSBORO NW
38 HILLSBORO NE
46 BUTLER SE
48 HILLSBORO SE
54 SORENTO NORTH NE
55 COFFEEN NW
56 COFFEEN NE

INDEX TO ADJOINING 3.75 MAPS

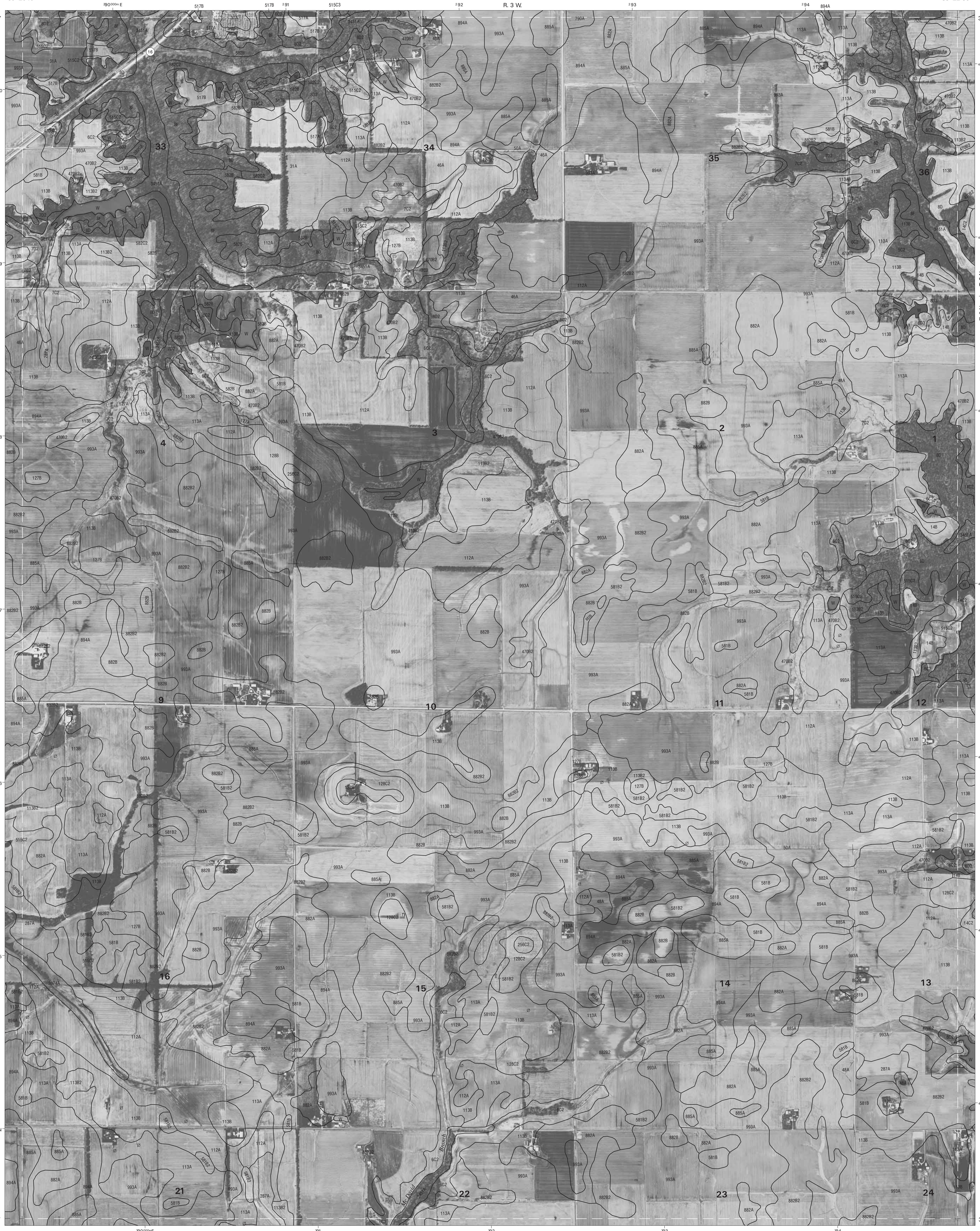
HILLSBORO SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 47 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

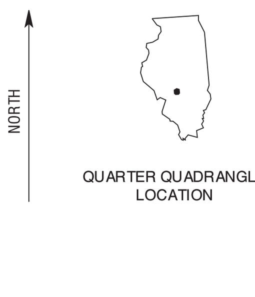
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
HILLSBORO SE QUADRANGLE
SHEET NUMBER 48 OF 66



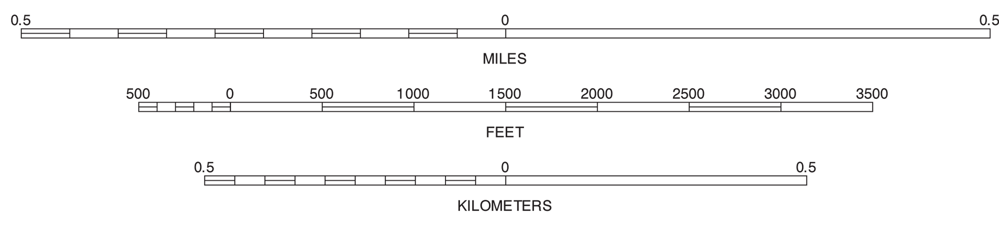
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



37	38	39
47		49
55	56	57

37 HILLSBORO NW
38 HILLSBORO NE
39 BALD KNOB NW
47 HILLSBORO SW
49 BALD KNOB SW
55 COFFEEN NW
56 COFFEEN NE
57 FILLMORE NW

INDEX TO ADJOINING 3.75 MAPS

HILLSBORO SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 48 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
BALD KNOB SW QUADRANGLE
SHEET NUMBER 49 OF 66

SCALE 1:12000

MILES

FEET

KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

38	39	40	38 HILLSBORO NE
48		50	39 BALD KNOB NW
56	57	58	40 BALD KNOB NE

48 HILLSBORO SE
50 BALD KNOB SE
56 COFFEEN NE
57 FILLMORE NW
58 FILLMORE NE

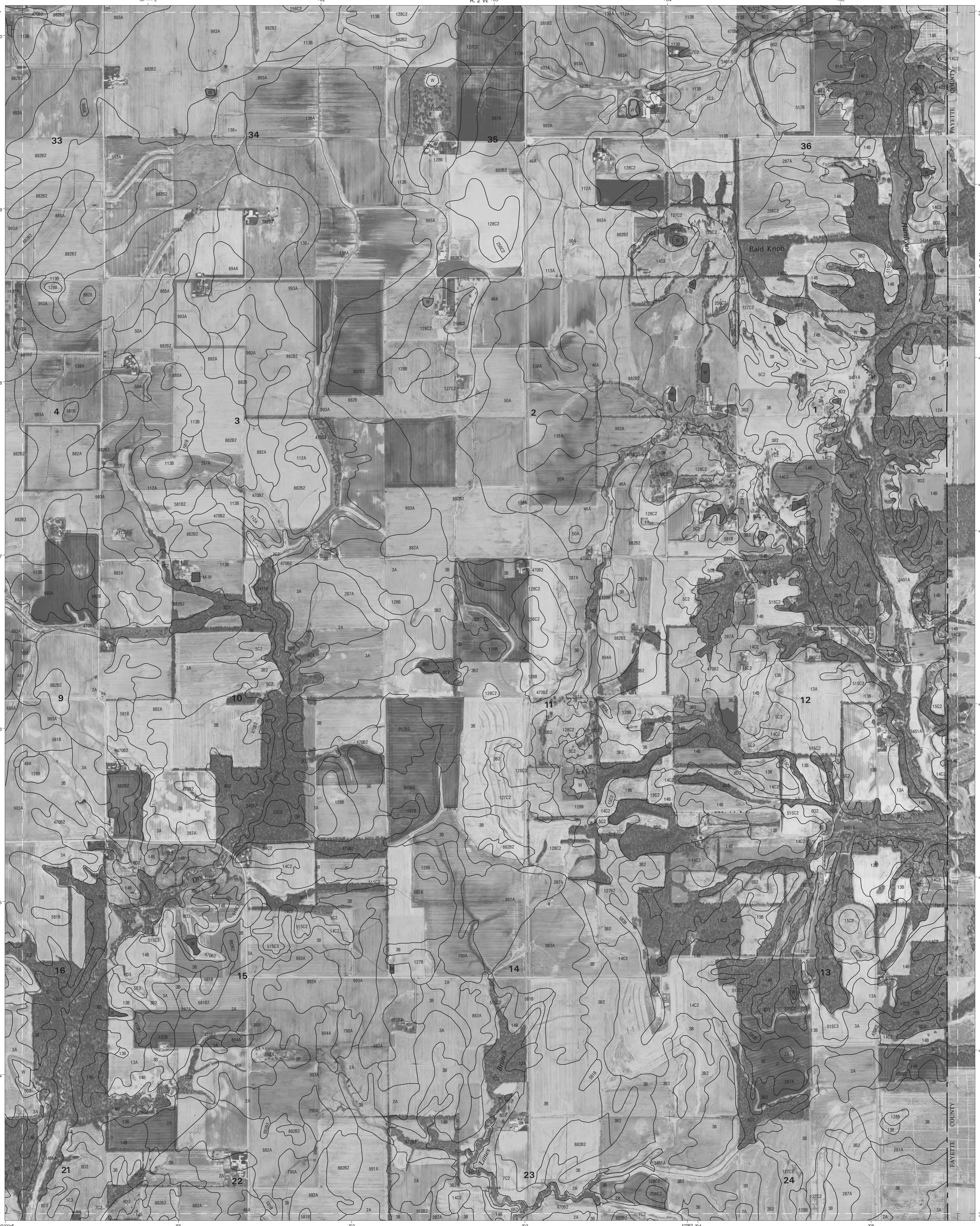
INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

BALD KNOB SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 49 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



SCALE 1:12000

MILES

FEET

KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

39	40	41
49		
57	58	

39 BALD KNOB NW
40 BALD KNOB NE
41 RAMSEY LAKE NW
49 BALD KNOB SW
57 FILLMORE NW
58 FILLMORE NE

INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

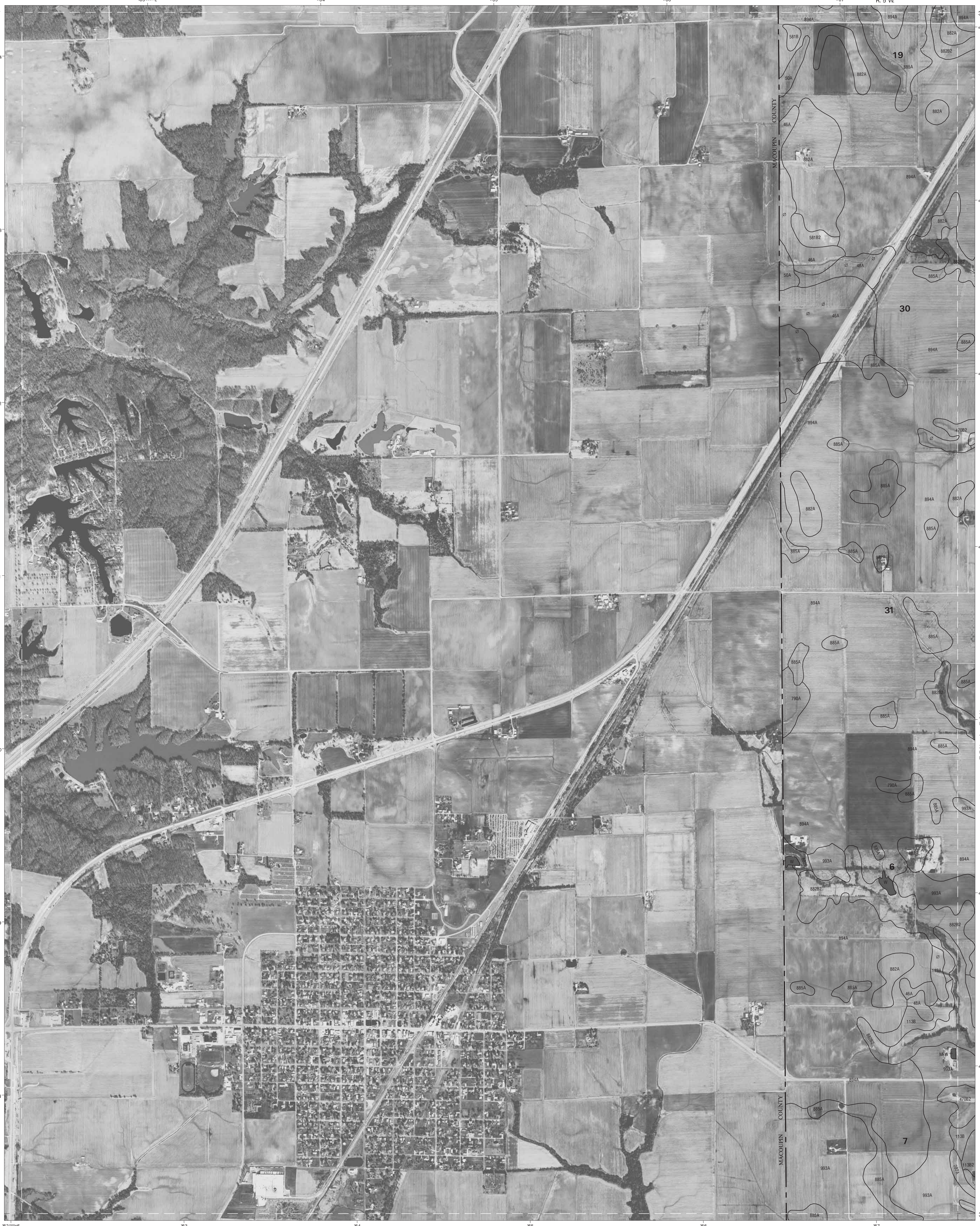
BALD KNOB SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 50 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

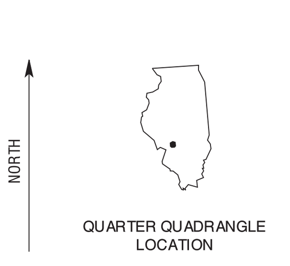
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
MOUNT OLIVE NW QUADRANGLE
SHEET NUMBER 51 OF 66

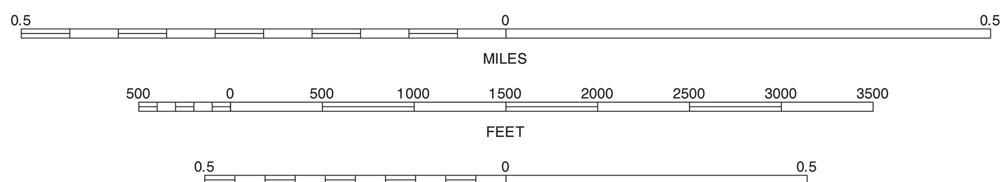


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:12000



	43	44
		52
	59	60

43 LITCHFIELD SW
44 LITCHFIELD SE
52 MOUNT OLIVE NE
59 MOUNT OLIVE SW
60 MOUNT OLIVE SE

INDEX TO ADJOINING 3.75 MAPS

MOUNT OLIVE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 51 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
MOUNT OLIVE NE QUADRANGLE
SHEET NUMBER 52 OF 66

89° 41′15″ 89° 37′30″

39° 07′30″ 39° 07′30″

39° 03′45″ 39° 03′45″

89° 41′15″ 89° 37′30″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

43	44	45
51		53
59	60	61

43 LITCHFIELD SW
44 LITCHFIELD SE
45 BUTLER SW
51 MOUNT OLIVE NW
53 SORENTO NORTH NW
59 MOUNT OLIVE SW
60 MOUNT OLIVE SE
61 SORENTO NORTH SW

INDEX TO ADJOINING 3.75 MAPS

MOUNT OLIVE NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 52 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
SORENTO NORTH NW QUADRANGLE
SHEET NUMBER 53 OF 66

89° 37′30″ — 89° 33′45″
39° 07′30″ — 39° 03′45″

SCALE 1:12000

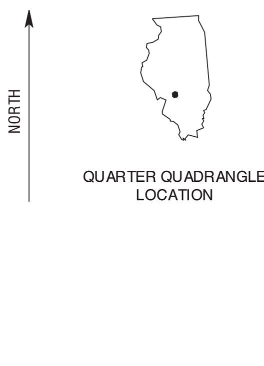
MILES

FEET

KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

44	45	46
52		54
60	61	62

44 LITCHFIELD SE
45 BUTLER SW
46 BUTLER SE
52 MOUNT OLIVE NE
54 SORENTO NORTH NE
60 MOUNT OLIVE SE
61 SORENTO NORTH SW
62 SORENTO NORTH SE

INDEX TO ADJOINING 3.75 MAPS

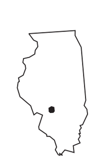
SORENTO NORTH NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 53 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

45	46	47
53		55
61	62	63

45 BUTLER SW
46 BUTLER SE
47 HILLSBORO SW
53 SORENTO NORTH NW
55 COFFEEN NW
61 SORENTO NORTH SW
62 SORENTO NORTH SE
63 COFFEEN SW

INDEX TO ADJOINING 3.75 MAPS

SORENTO NORTH NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 54 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

SCALE 1:12000

MILES 0.5 0 0.5

FEET 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS 0.5 0 0.5

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

46	47	48
54		56
62	63	64

46 BUTLER SE
47 HILLSBORO SW
48 HILLSBORO SE
54 SORENTO NORTH NE
56 COFFEEN NE
62 SORENTO NORTH SE
63 COFFEEN SW
64 COFFEEN SE

INDEX TO ADJOINING 3.75 MAPS

COFFEEN NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 55 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
COFFEEN NE QUADRANGLE
SHEET NUMBER 56 OF 66

SCALE 1:12000

MILES

FEET

KILOMETERS

QUARTER QUADRANGLE LOCATION

47	48	49
55		57
63	64	65

47 HILLSBORO SW
48 HILLSBORO SE
49 BALD KNOB SW
55 COFFEEN NW
57 FILLMORE NW
63 COFFEEN SW
64 COFFEEN SE
65 FILLMORE SW

INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

COFFEEN NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 56 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

48	49	50
56		58
64	65	66

48 HILLSBORO SE
49 BALD KNOB SW
50 BALD KNOB SE
56 COFFEEN NE
58 FILLMORE NE
64 COFFEEN SE
65 FILLMORE SW
66 FILLMORE SE

INDEX TO ADJOINING 3.75 MAPS

FILLMORE NW, ILLINOIS

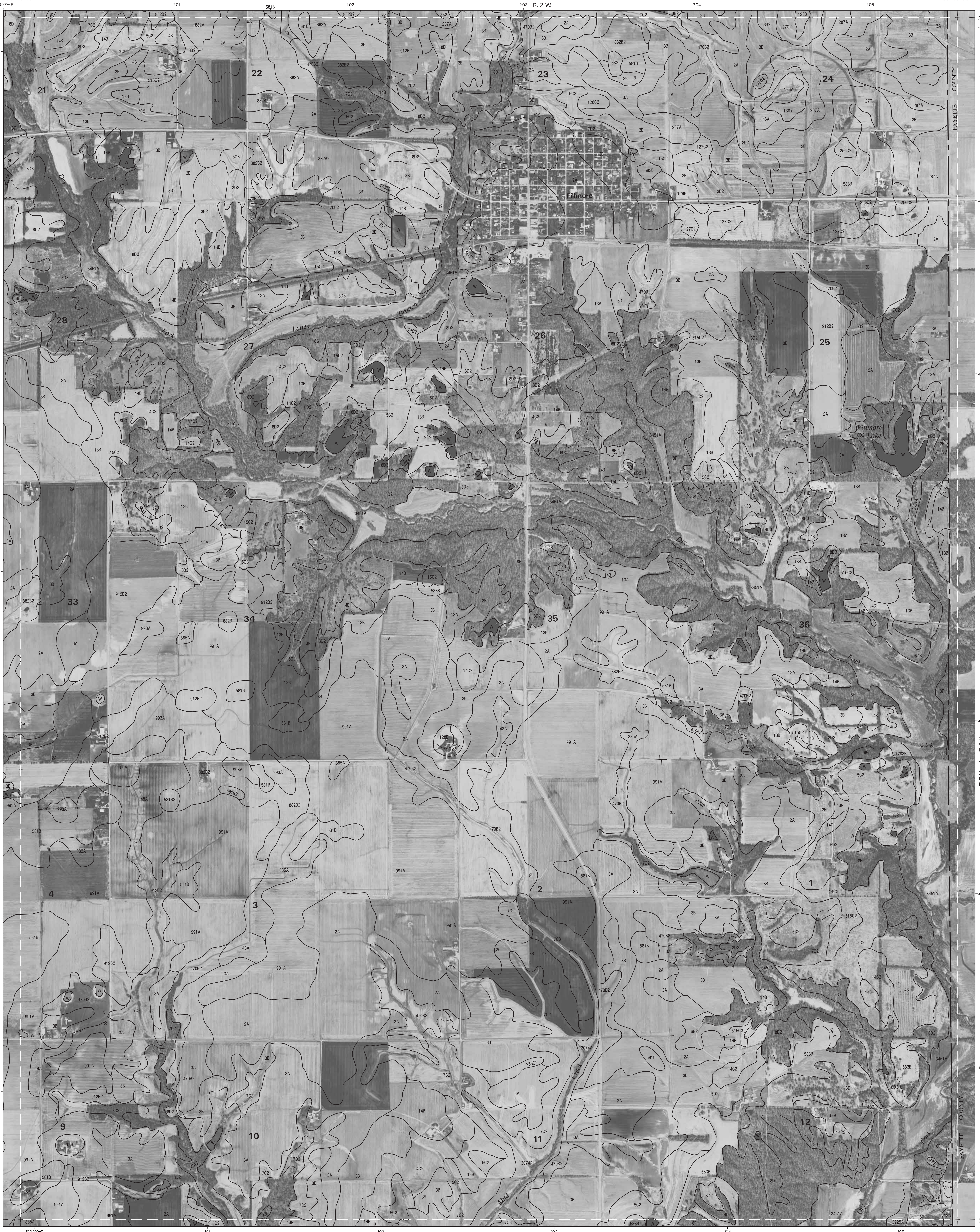
3.75 MINUTE SERIES
SHEET NUMBER 57 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
FILLMORE NE QUADRANGLE
SHEET NUMBER 58 OF 66

89°18′45″ 89°15′00″
39°07′30″ 39°07′30″



39°03′45″ 39°03′45″
89°18′45″ 89°15′00″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

49	50	
57		
65	66	

49 BALD KNOB SW
50 BALD KNOB SE
57 FILLMORE NW
65 FILLMORE SW
66 FILLMORE SE

INDEX TO ADJOINING 3.75 MAPS

FILLMORE NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 58 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 — 0 — 0.5
KILOMETERS

	51	52	
	■	60	

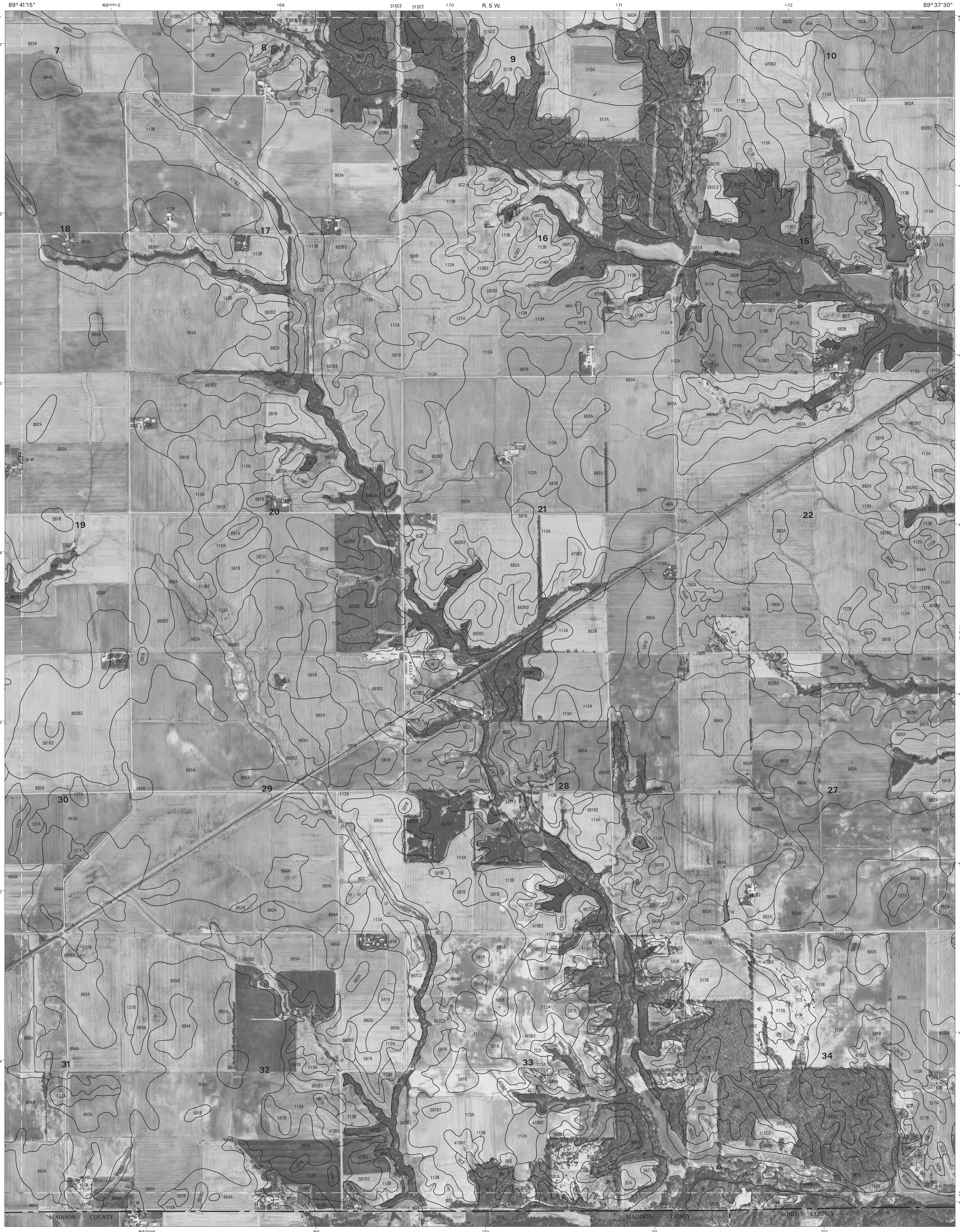
51 MOUNT OLIVE NW
52 MOUNT OLIVE NE
60 MOUNT OLIVE SE

INDEX TO ADJOINING 3.75 MAPS

MOUNT OLIVE SW, (OVERSIZED) ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 59 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



SCALE 1:12000

MILES

FEET

KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

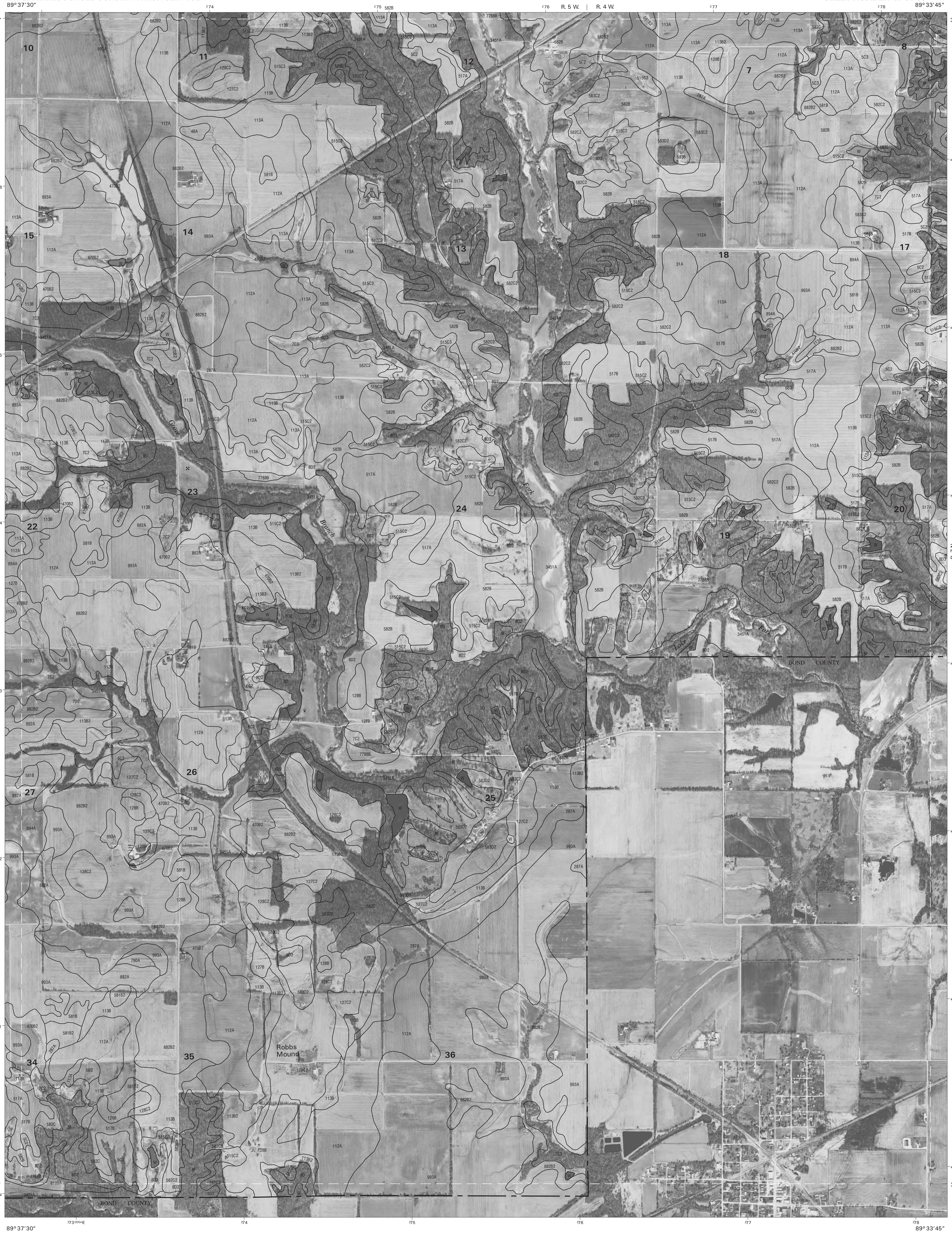
51	52	53
59		61

51 MOUNT OLIVE NW
52 MOUNT OLIVE NE
53 SORENTO NORTH NW
59 MOUNT OLIVE SW
61 SORENTO NORTH SW

INDEX TO ADJOINING 3.75 MAPS

MOUNT OLIVE SE, (OVERSIZED) ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 60 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



SCALE 1:12000

MILES 0.5 0 0.5

FEET 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS 0.5 0 0.5

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

52	53	54
60		62

52 MOUNT OLIVE NE
53 SORENTO NORTH NW
54 SORENTO NORTH NE
60 MOUNT OLIVE SE
62 SORENTO NORTH SE

INDEX TO ADJOINING 3.75 MAPS

SORENTO NORTH SW, (OVERSIZED) ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 61 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
SORENTO NORTH SE QUADRANGLE
SHEET NUMBER 62 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

53	54	55
61		63

53 SORENTO NORTH NW
54 SORENTO NORTH NE
55 COFFEEN NW
61 SORENTO NORTH SW
63 COFFEEN SW

INDEX TO ADJOINING 3.75 MAPS

SORENTO NORTH SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 62 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

54	55	56
62		64

54 SORENTO NORTH NE
55 COFFEEN NW
56 COFFEEN NE
62 SORENTO NORTH SE
64 COFFEEN SE

INDEX TO ADJOINING 3.75 MAPS

COFFEEN SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 63 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SCALE 1:12000

MILES

FEET

KILOMETERS

55	56	57
63		65

55 COFFEEN NW
56 COFFEEN NE
57 FILLMORE NW
63 COFFEEN SW
65 FILLMORE SW

INDEX TO ADJOINING 3.75 MAPS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

COFFEEN SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 64 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
FILLMORE SW QUADRANGLE
SHEET NUMBER 65 OF 66

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

56	57	58
64		66

56 COFFEEN NE
57 FILLMORE NW
58 FILLMORE NE
64 COFFEEN SE
66 FILLMORE SE

INDEX TO ADJOINING 3.75 MAPS

FILLMORE SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 65 OF 66

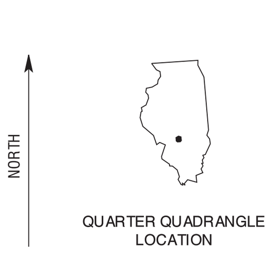
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MONTGOMERY COUNTY, ILLINOIS
FILLMORE SE QUADRANGLE
SHEET NUMBER 66 OF 66

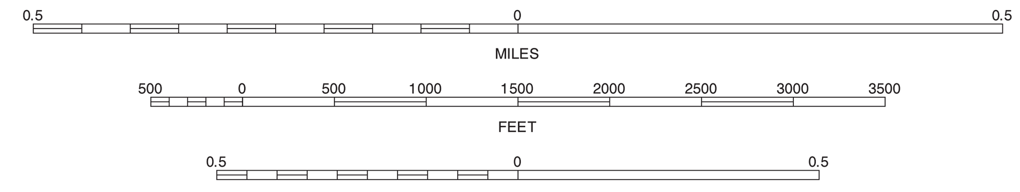
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are derived from orthophotographs prepared by the National Agriculture Imagery Program (NAIP), from 2005 aerial photography.

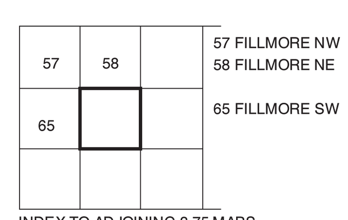
North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000





INDEX TO ADJOINING 3.75 MAPS

FILLMORE SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 66 OF 66

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.